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XML Goes to Washington

THE FEDERAL GOVERNMENT faces the same challenges as private industry in deploying the open XML standard, with the added burden of having no cohesive federal standard for XML adoption and layer upon layer of bureaucracy. Even so, a number of federal agencies are forging ahead with multiple XML initiatives that promise to increase public access to information plus streamline record-keeping and cut costs. Public-sector companies should take note. **STORY BEGINS ON PAGE 43.**

Home Depot's Next IT Project: Data Warehouse

Trying to catch up to rivals, retailer uses IBM technology to build 60TB analytical database

BY MARC L. SONGINI

Looking to make up for lost time in its use of business intelligence technology, The Home Depot Inc. within 90 days plans to launch a 60TB Web-accessible data warehouse that will initially be used for human resources functions.

Home Depot last week announced that it will use IBM's DB2 database and p690 high-end Unix servers to run the data warehouse, which eventually will also support the Atlanta-based home improvement retailer's supply chain, inventory management and replenishment operations.

Home Depot CIO Bob DeRodes said the project will cost tens of millions of dollars and provide the company with its first purely analytical database. He acknowledged that other retailers have beaten Home Depot to the punch in exploiting the capabilities of business intelligence software.

"We have, in fact, been behind in data warehousing

Home Depot, page 16

Warehousing Costs

- Home Depot said it will spend tens of millions of dollars on technology and deployment expenses related to the new data warehouse.
- The project will also require the addition of about 25 consultants to optimize data for decision-support uses, doubling the company's 25-person database administration staff.

Vendors Try to Simplify J2EE

But users' needs vary depending on developers' skills, types of projects

BY CAROL SLIWA

Java tools vendors are pushing products that aim to reduce or mask the complexity of the Java 2 Enterprise Edition development environment. But it's not clear to what degree J2EE's complexity has been an impediment to adoption among corporate developers.

Both Bowstreet Inc. and M7 Corp. will address the complexity issue when they launch new Java tools this week. And they will hardly be the first vendors to have pounded that marketing beat over the past six months. From large vendors such as BEA Systems Inc. and IBM to smaller tool makers, including AltoWeb Inc. and Wakesoft Inc., the message has begun to resonate.

"All are saying that J2EE is too hard . . . and everyone is focused on what can sell," said Daryl Plummer, an analyst at Stamford, Conn.-based Gartner Inc. "What can sell is making J2EE development easier, and the added advantage is it does happen to [address] a true need."

But how strongly that need is expressed can vary widely

J2EE, page 57

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To access all Computerworld stories relating to J2EE development, visit our Application Development Knowledge Center.
QuickLink k1100
www.computerworld.com

Fixes Named Along With Top 20 Holes

Public/private security initiative yields first action plan to beat hacker threat

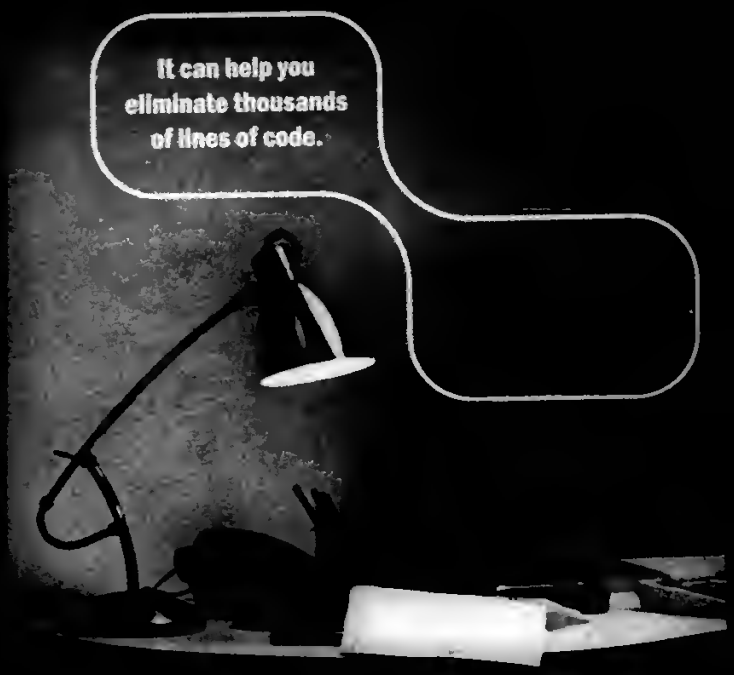
BY DAN VERTON

A collaborative initiative by federal agencies and a group of private-sector security organizations last week yielded a target list of the 20 most hazardous Internet security vulnerabilities, along with specific products and programs designed to help companies eradicate them.

The list is the third compiled in as many years by The SANS Institute, a nonprofit security organization, and the FBI's National Infrastructure Protection Center. However, this year marks the first time that security vendors have offered product upgrades specifically targeting the vulnerabilities.

Top 20, page 57

Microsoft



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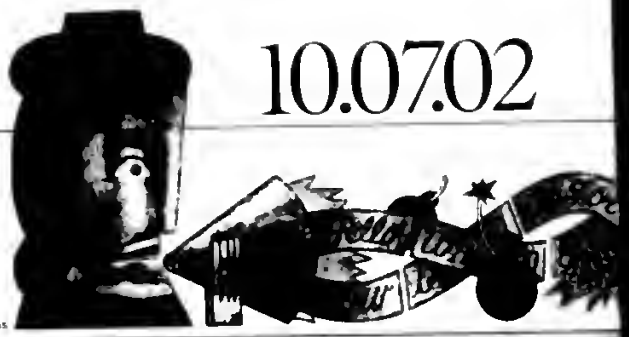

RICHARD DOWNS

WLAN Wars III: Attack of the Rogues

In the Technology section: Mathias Thurman struggles to get a grip on wireless LAN security as rogue access points continue to multiply. **Page 38**

VOIP: Don't Overlook Security

In the Technology section: Security is often an overlooked aspect of VOIP implementations even though companies can open up serious vulnerabilities when voice and data converge. **Page 27**

NEWS

6 **Internet service** outages affected some WorldCom users last week.

6 **IBM and Microsoft** are upgrading their e-mail and collaboration products.

7 **New management** tools promise to make it easier to identify and respond to security threats.

7 **Cisco Systems** has launched wireless LAN access points that contain the same intelligence as its wired networking products.

8 **BMC Software** said it's developing a set of tools that will allow users to control both mainframe and distributed databases from a single management console.

10 **Computer Sciences** has laid off about 200 of the 1,600 workers involved in its deal with United Technologies.

10 **Handheld computer** manufacturers are bracing for an all-out price and feature battle.

12 **Pervasive computing** could reduce business costs, but only if problems with technology, standards and vendor turf issues are overcome.

12 **The FTC** will look at whether action taken by industry groups and states are thwarting Internet competitors.

14 **Network Appliance** introduced a line of storage devices that can also support storage-area networking.

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50 **QuickScan:** Here's a snapshot of the state of IT help desks.

OPINION

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24 **Pimm Fox** thinks companies can easily grab millions of dollars in tax credits available to them with the help of existing Web services.

25 **Devid Foote** adds his voice to those who are skeptical about large-scale CRM applications. But he says targeted, less ambitious development efforts are having success.

40 **Robert L. Scheier** says Siebel Systems customers' complaints about ROI should put the IT industry on notice.

51 **John Berry** writes that juicing the numbers isn't an option for IT managers using an economic value-added approach to IT financial management.

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ONLINE

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Uh-oh: Exposed!

FEATURE EXCLUSIVE: Privacy columnist Jay Cline gives CIOs a step-by-step plan for responding to a privacy PR disaster — as well as hints on preventing one.
QuickLink 33356

Spy vs. Hacker

NEWS HEADLINE: Guess who's "war-driving" now? The U.S. Secret Service, which is scouring Washington and other cities in an effort to sniff out unsecured wireless LANs.
QuickLink a2590

Technical How-to's

KNOWLEDGE CENTER: Find links to tutorials in some of today's hottest technology areas, including .Net dynamic scripts and Web services with Perl and AppleScript.
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Earnings Updates

BREAKING NEWS: For the latest news about vendor earnings announcements, visit our IT Industry Earnings special coverage page.
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Storage updates

KNOWLEDGE CENTER: You'll get summaries of the latest storage news, opinions and technical explainers from across the Internet with our Around the Web storage feature.
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UUnet problems said to affect 20% of country's users

BY MATT HAMBLEN

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SOURCE: MATRIX NETSYSTEMS INC., AUSTIN, TEXAS

Patrick Thibodeau contributed to this story.

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Notes/Domino 6 ships; Exchange to upgrade next year

BY TODD R. WEISS

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Users Get Improved Security Management Tool Offerings

IBM, Symantec, ArcSight bring in data consolidation

BY JAIKUMAR VIJAYAN

A flurry of management software announcements promises to enable corporations to more efficiently deal with security threats by aggregating and intelligently sifting through real-time data from enterprise security systems.

The products, from IBM, Symantec Corp. and ArcSight Inc., work by tapping and correlating data from enterprise firewalls, intrusion detectors and antivirus software and presenting it in a central management console.

This aggregation and analysis is crucial in identifying real threats for corporatinns that are drowning in a flood of security data from enterprise security monitors.

"The data consolidation allows you to be more efficient from a manpower perspective, while the correlation allows you to be more efficient in reducing the false positives," said Steve Jeffers, manager of enterprise security services at Avnet Inc., a Phoenix-based distributor of electronic components and a beta tester nf Symantec's new software.

"It's very important to get a holistic view of the events taking place across each security product layer" to pinpoint the real threats, said Bob Justus, vice president of information security at the Union Bank of California NA in San Francisco, an ArcSight customer.

Early Warnings

The bank's security systems generate about 100,000 events daily, which ArcSight's software checks for clues indicating possible attacks.

Each of the new products is aimed at providing similar early warnings.

For instance, Cupertino, Calif.-based Symantec's new Security Management System, launched last week, features an event manager, an incident manager and a policy compliance tool. The event manager allows users to collect and correlate security data from Symantec and third-party firewall and antivirus products.

The incident manager offers real-time incident management capabilities by using a risk analysis engine to prioritize incident responses based on the business importance of the assets being attacked.

The third component is an eoterprise security manager that among nther things lets companies build and enforce customized security policies.

Such capabilities "simplify the management nf beterogeneous products and focus security efforts on the accurate and timely identificatioo of threats," said Craig Rode, a Symantec product manager.

Responding to Threats

Meanwhile, the latest version of Sunnyvale, Calif.-based ArcSight's security management software, Arcsight 2.0, was designed to help companies weed out false alerts and prioritze the manner in whicb they protect their assets. It will be launched this week.

ArcSight prescribes remedial action based on the potential damage an event can cause, its likely targets and their degree of exposure to a threat. Multiple ArcSight managers can be deployed across a network, and all the information can be captured in one location.

ArcSight's technology "allows me to take tbe events from a router, network-based intrusion-detection systems, firewalls and application transaction logs to see what people are trying to do to the bank's systems," Justus said.

IBM this week will announce a new version of its Tivoli Risk Manager, featuring a "heartbeat" function that proactively notifies administrators of potential failures in the security infrastructure.

The software will come integrated with IBM Tivoli NetView and Tivoli Data Warehouse to provide more network-centric views of security incidents and better forensics and historical reporting capabilities, said Arvind Krishna, a director in IBM's Tivoli group. "You can now look at all your security events, network events, application eveots and server events in one place," Krishna said.

Software such as this addresses an area of growing concern for users, said Pete Lindstrom, an analyst at Spire Group, a Malvern, Pa.-based consultancy. "Companies are overwhelmed by security information and are looking for some sort of a prioritization layer," be said. "Security event managers provide the central console fnr the threat management picture."

JUST THE FACTS

Security Management Systems:

- **GATHER** security event data from multiple firewalls intrusion detectors and antivirus technologies.
- **CONSOLIDATE** correlate and analyze the data
- **PRESENT** the information in a single centralized console
- **RECOMMEND** and prontize responses to potential attacks.

Cisco Builds Intelligence Into Wireless LAN APs

Strategy differs from that of rival

BY BOB BREWIN

Cisco Systems Inc. has introduced a wireless LAN access point that's the first wireless product to incorporate the Internetwork Operating System (IOS) used in the company's routers, switcbes and other wired network equipment.

Analysts said introduction of the product, priced at $599, sets the stage for a battle between Cisco and Holtsville, N.Y.-based Symbol Technologies Inc., which last month introduced a decentralized, switch-managed wireless LAN architecture.

Craig Mathias, an analyst at Farpoint Group in Ashland, Mass., said the competition among Symbol, Cisco and other wireless LAN suppliers "could get nasty, because this is the only brigbt spot in the networking market."

Ron Seide, product line manager at Cisco, said integrating IOS inm the new 1100 Series AP follows the company's philosophy of "pushing intelligence to the edge of the network."

The IOS will enable support for wired network features such as quality-of-service controls that allow voice over IP traffic to take precedence over data traffic.

The 1100 Series will initially operate under the 802.11b, or Wi-Fi, standard, which provides 11M bit/sec. throughput in the 2.4-GHz unlicensed frequency band. Seide said the product is upgradable to 802.11g, which offers 54M bit/sec. throughput in the same band.

Cisco has taken a "fundamentally different" approach tn its new wireless LAN products from the one Symbol has taken, Seide said. The new architecture Symbol introduced last month, called Mobius, is designed around inexpensive access ports that have all nf their intelligence housed in a central switch. The product sells for $279. Symbol's access ports house only transmitter/receivers and not the software and firmware used in access points.

Seide said the Symbol approach requires users to buy and install the expensive controller box as well as the access ports before they can reap the benefits of wireless LANs. The 1100 Series requires only a network connection to work out of the box, offering more flexibility at a lower cost, he claimed.

Ray Martino, a Symbol vice president, agreed that intelligence belongs at the edge nf the network, bun added, "I believe the edge is the wiring closet." Using Cisco's logic in the wired world "would mean installing Ethernet controllers on floorboards," be said.

Mathias said the Symbol approach offers users more flexibility and could lead to a lower total cost of ownership. He predicted that other wireless LAN vendors will soon begin to imitate the Symbol Mobius architecture.

Jay Dominick, assistant vice president for information systems at Wake Forest University in Winston-Salem, N.C., said the speed of wireless LAN product development and differing standards make it difficult tn choose any particular architecture. "If you bet on something right now, you could be wrong in a year," he said.

AT DEADLINE

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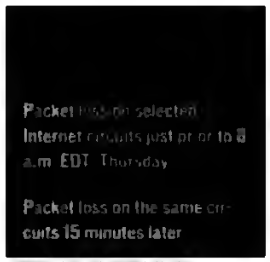
Packet loss on selected Internet circuits just prior to 8 a.m. EDT Thursday
Packet loss on the same circuits 15 minutes later

Patrick Thibodeau contributed to this story.

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One-on-One

New features from IBM and Microsoft include the following:

NOTES/DOMINO:
- Automated client upgrade tools
- Improved e-mail archiving
- Antispam controls

EXCHANGE TITANIUM:
- Bundled administrative tools
- Support for up to eight-node redundancy
- Native support for mobile devices

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IBM this week will announce a new version of its Tivoli Risk Manager, featuring a "heartbeat" function that proactively notifies administrators of potential failures in the security infrastructure.

The software will come integrated with IBM Tivoli NetView and Tivoli Data Warehouse to provide more network-centric views of security incidents and better forensics and historical reporting capabilities, said Arvind Krishna, a director in IBM's Tivoli group. "You can now look at all your security events, network events, application events and server events in one place," Krishna said.

Software such as this addresses an area of growing concern for users, said Pete Lindstrom, an analyst at Spire Group, a Malvern, Pa.-based consultancy. "Companies are overwhelmed by security information and are looking for some sort of a prioritization layer," he said. "Security event managers provide the central console for the threat management picture."

JUST THE FACTS

Security Management Systems:

- **GATHER** security event data from multiple firewalls, intrusion detectors and antivirus technologies
- **CONSOLIDATE** correlate and analyze the data
- **PRESENT** the information in a single centralized console
- **RECOMMEND** and prioritize responses to potential attacks

Cisco Builds Intelligence Into Wireless LAN APs

Strategy differs from that of rival

BY BOB BREWIN

Cisco Systems Inc. has introduced a wireless LAN access point that's the first wireless product to incorporate the Internetwork Operating System (IOS) used in the company's routers, switches and other wired network equipment.

Analysts said introduction of the product, priced at $599, sets the stage for a battle between Cisco and Holtsville, N.Y.-based Symbol Technologies Inc., which last month introduced a decentralized, switch-managed wireless LAN architecture.

Craig Mathias, an analyst at Farpoint Group in Ashland, Mass., said the competition among Symbol, Cisco and other wireless LAN suppliers "could get nasty, because this is the only bright spot in the networking market."

Ron Seide, product line manager at Cisco, said integrating IOS into the new 1100 Series AP follows the company's philosophy of "pushing intelligence to the edge of the network."

The IOS will enable support for wired network features such as quality-of-service controls that allow voice over IP traffic to take precedence over data traffic.

The 1100 Series will initially operate under the 802.11b, or Wi-Fi, standard, which provides 11M bit/sec. throughput in the 2.4-GHz unlicensed frequency band. Seide said the product is upgradable to 802.11g, which offers 54M bit/sec. throughput in the same band.

Cisco has taken a "fundamentally different" approach to its new wireless LAN products from the one Symbol has taken, Seide said. The new architecture Symbol introduced last month, called Mobius, is designed around inexpensive access ports that have all of their intelligence housed in a central switch. The product sells for $279. Symbol's access ports house only transmitter/receivers and not the software and firmware used in access points.

Seide said the Symbol approach requires users to buy and install the expensive controller box as well as the access ports before they can reap the benefits of wireless LANs. The 1100 Series requires only a network connection to work out of the box, offering more flexibility at a lower cost, he claimed.

Ray Martino, a Symbol vice president, agreed that intelligence belongs at the edge of the network, but added, "I believe the edge is the wiring closet." Using Cisco's logic in the wired world "would mean installing Ethernet controllers no floorboards," he said.

Mathias said the Symbol approach offers users more flexibility and could lead to a lower total cost of ownership. He predicted that other wireless LAN vendors will soon begin to imitate the Symbol Mobius architecture.

Jay Dominick, assistant vice president for information systems at Wake Forest University in Winston-Salem, N.C., said the speed of wireless LAN product development and differing standards make it difficult to choose any particular architecture. "If you bet on something right now, you could be wrong in a year," he said.

Dueling Architectures

CISCO SYSTEMS
Builds intelligence into its $599 access points by means of the IOS software Cisco uses in its wired network products.

SYMBOL TECHNOLOGIES
Builds intelligence into controller/switch; its $279 access ports have no intelligence.

BRIEFS

EMC Cuts Outlook, Plans More Layoffs

EMC Corp. said it plans more layoffs and warned that it now expects to remain in the red through year's end. The Hopkinton, Mass.-based storage vendor said it will eliminate about 1,300 jobs, cutting its workforce by 7%. Corporate IT spending "continues to be brutal" and became even weaker than it had been late in the third quarter, said Joseph Tucci, EMC's CEO.

Sabre Mainframe Migration Milestone

Sabre Holdings Corp. said it has finished an initial migration of its airfare pricing application from IBM mainframes to Hewlett-Packard Co.'s HP NonStop servers. Southlake, Texas-based Sabre said it had no downtime in its first 60 days on the HP systems. Sabre last year began a $100 million project aimed at moving its airline reservation system off mainframes by 2004.

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MARK HALL • ON THE MARK

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BMC Plans Integrated Database Tools

Products to support mainframes and distributed systems from single console

BY MATT HAMBLEN
BOSTON

BMC Software Inc. last week outlined a blueprint for delivering within 18 months an integrated set of database management tools designed to let IT managers monitor mainframe and distributed databases from a single console.

As part of the plan, called Project Golden Gate, Houston-based BMC also announced the release of five new or upgraded tools. Those products range from a batch processing tool for mainframe databases to backup and recovery software for Oracle Corp. databases and for SAP AG and Siebel Systems Inc. applications.

BMC's long-term plan "is interesting from the standpoint of having a product that's able to link many areas, both open systems and mainframes," said Frank Schmitt, team leader for storage management at OneBeacon Insurance Group in Boston. That would let IT workers with mainframe skills manage both kinds of databases, Schmitt added.

Dan Sullivan, vice president of information systems at Mellon Financial Corp. in Pittsburgh, said he also likes the concept because he oversees administrators of both mainframe and distributed databases and wants to have a single view into both worlds.

Sullivan has worked for six years with BMC's Mainview software, a mainframe systems monitoring tool that Mellon uses to detect slowdowns in massive data processing jobs, to plan future capacity needs.

"The big utility that everybody wants is the ability to have automated intelligence and single console management for all the databases," said Rich Ptak, ao analyst at Ptak & Associates Inc. in Amherst, N.H. "It's a winner, and BMC is the only company that has tools that run across all the different databases and platforms."

The elosest potential competitor for a similar initiative would be Computer Associates International Inc. in Islandia, N.Y., Ptak added.

At a customer event here, BMC officials described Golden Gate as specifically focused on data management products that are aimed at bringing together mainframe and distributed databases. But a BMC spokeswoman said afterward that the single console concept will be expanded to include the Mainview systems monitoring tools "sometime in 2003." ◗

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200 Cut From UTC Project

CSC layoffs follow efforts to renegotiate troubled $3.7 billion outsourcing deal

BY TODD R. WEISS

COMPUTER SCIENCES Corp. (CSC) last week confirmed that it has laid off about 200 of the 1,600 employees who had been doing IT work for United Technologies Corp. (UTC) under a $3.7 billion outsourcing deal.

The layoffs are the latest, and most tangible, evidence of friction between the two companies on the 15-year outsourcing contract, which is due to run through 2014.

Sources last month said CSC was trying to get more money from UTC to cover its costs on the agreement and added that workers assigned to UTC were bracing for cutbacks [QuickLink 32831].

In a statement last week, El Segundo, Calif.-based CSC said the layoffs included about 165 workers based at UTC's headquarters in Hartford, Conn. The cuts were made to help control costs and realign resources, according to a CSC spokeswoman. She declined further comment on why the employees were let go.

UTC spokesman Paul Jackson said executives at the $27.9 billion manufacturing conglomerate are "watching the situation very closely to make sure service levels aren't affected." Jackson also declined to elaborate on the situation.

Peter Bendor-Samuel, an outsourcing consultant at Everest Group Inc. in Dallas, said he hasn't seen the details of the contract between CSC and UTC. But it's obvious that big changes are under way, he added. "Clearly, there's a restructuring going on," Bendor-Samuel said. "Two hundred people is a lot of people."

Seeking a Better Deal

Renegotiations such as the one sought by CSC are becoming much more common among outsourcing partners as companies look to cut costs wherever possible, according to Bendor-Samuel. But, he noted, it's often the outsourcing client that pushes for a better deal because of the sluggish economy and increased competition among vendors.

The contract between CSC and UTC was originally signed in May 1999 as a 10-year deal that involved only UTC's Pratt & Whitney aircraft engines subsidiary. The agreement was expanded that fall to cover all of UTC's IT infrastructure in North America and was then extended by another five years last November.

As part of the outsourcing contract, CSC is supposed to consolidate 20 major data centers into three facilities and combine UTC's 15 end-user help desks into a single operation. The deal also calls for CSC to standardize about 45,000 PCs on Dell technology and eliminate about 350 of the 2,950 servers that UTC had in place when it was signed.

An unspecified number of the workers being dropped from the UTC account will be offered other jobs within CSC, according to the outsourcing firm's spokeswoman. ▶

Handheld Market Share Battle Centers on Price and Features

Competition to heat up by end of year

BY BOB BREWIN

Look for competition in the handheld computer market to heat up by the end of the year, as vendors wield lower prices and more advanced features in their battle for market share.

On the price front, ViewSonic Corp. in Walnut Creek, Calif., last week set a new price point for handhelds running Microsoft Corp.'s Pocket PC operating system with the introduction of a $299 model. That's about half what iPaq Pocket PCs from Hewlett-Packard Co. sold for earlier this year.

HP promises to cross that price threshold later this year. Roger Frizzell, an HP spokesman, said the company plans to introduce a "value line," as well as high-end models with added features including biometrics and telephony. He declined to elaborate, however.

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While Pocket PC vendors push prices down, Sony Electronics headed in the other direction with last week's introduction of a $599, feature-rich handheld running Palm Inc.'s new OS5. The Sony Clie model runs on a 200-MHz processor from Intel Corp. that's also used by Pocket PC manufacturers. Older-model Palm hardware used 33-MHz chips.

Ty Takayanagi, Sony's product manager for the Clie line, said Sony chose the Palm OS over the Pocket PC because it offers "more flexibility."

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P&G Slows Pace Of Outsourcing Talks With EDS

Officials at Electronic Data Systems Corp. and Procter & Gamble Co. last month said they were potentially just days away from finalizing a big IT and business process outsourcing deal. But P&G has now slowed down the talks.

P&G spokeswoman Linda Ulrey last week said the Cincinnati-based maker of consumer products is still negotiating with EDS. But it will likely be "a number of weeks" before P&G executives make a final decision, she added.

Ulrey wouldn't say whether P&G is also talking with other IT services companies, and she declined to comment on whether EDS's recent financial troubles are causing P&G to take a closer look at the outsourcing vendor. "We just reached a point where we felt we should take a little more time," Ulrey said.

EDS spokesman John Clendenning also declined to comment about the talks. Plano, Texas-based EDS initially dropped out of the bidding for P&G in July. But it returned to the table last month and appeared to have the deal sewn up when its chief rival, Dallas-based Affiliated Computer Services Inc., ended its talks with P&G [QuickLink 33070].

However, EDS on Sept. 18 announced that it would fall well short of its revenue and earnings targets for both the third and fourth quarters. The company last week said it's launching a companywide cost-cutting effort that could involve layoffs.

EDS also disclosed that the U.S. Securities and Exchange Commission has begun an informal inquiry related to its third-quarter shortfall. The company said it's "confident the inquiry will confirm its actions were proper."

– Todd R. Weiss and Juan Carlos Perez, IDG News Service

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Pervasive Computing Has Pervasive Problems

Interoperability, security among issues to deal with

BY PATRICK THIBODEAU
WASHINGTON

THE PROMISE of pervasive computing is alluring for Lyle Meier, a systems architect at ChevronTexaco Corp. in San Francisco. Processors are turning up in large numbers in everything from automobiles to aircraft engines. And someday, smart wireless sensors may be widely deployed in oil fields — if wilderness wireless service ever becomes available.

"Oil has an annoying habit," said Meier. "It occurs where there are no people."

Meier's point is indicative of the problems inherent in pervasive computing — the concept of tying together embedded, handheld, desktop and networked systems into a single fabric with ubiquitous reach. Those problems include standards and security issues, interoperability and the lack of IP addresses to handle millions of connected devices.

A federal agency, the National Institute of Standards and Technology (NIST), is working to address those problems by developing the standards and measurements needed to stitch together hardware and software components and communications protocols.

NIST is also developing a business case for users to demand pervasive computing systems from vendors.

Last week, NIST held its third pervasive computing conference, this time focusing on health care — a paper-mired industry that NIST officials believe can see substantial business benefits from ubiquitously deployed and connected technology.

"Although the health care industry is one of the major industries in the U.S., it has been one of the slowest to embrace information technologies," said NIST Director Arden Bement.

Indeed, NIST officials stress that broad use of electronic records and wireless networking could reduce health care's administrative cost. But the lack of standards is a tremendous hurdle.

For example, health care workers are beginning to use personal digital assistants (PDA) to access and log information as they move from patient to patient, but XML support isn't available on all PDAs. The manufacturers need to be aware of the standards needed, and the standards have to be fine-tuned for portable devices, according to Mark Skall, chief of the software diagnostics and conformance testing division of the NIST.

Another problem is developing applications that can automatically adapt to different networking environments with different bandwidths, said Mike Wehrs, director of technology and standards, Mobility Planning Group, at Microsoft Corp.

Health Care Uses

In health care, pervasive computing could make it possible to create a single electronic patient record that physicians could access regardless of what device they use, said Dixie Baker, vice president for technology at Science Applications International Corp., a systems integration firm in San Diego.

But many health care systems are proprietary and stymie interoperability.

"Anything NIST can do that can crack that conundrum can help," said Jeff Sutherland, chief technology officer at PatientKeeper Inc., a health care systems developer in Brighton, Mass. ◗

Federal Efforts

SECURITY: NIST's Advanced Encryption Standard, released last year, is critical to pervasive computing.

PERFORMANCE: The agency is developing measurements of Java performance on embedded processors.

MODELS: To help industry better understand complex interactions, NIST is working on pervasive computing models.

FOUNDATION: NIST is working on a wide range of protocols.

Correction

IN OUR SEPT. 23 ISSUE, Richard Fronheiser's employer was misidentified in the story "BMC Ups Performance Management Software." Fronheiser is a capacity planning specialist at American Family Mutual Insurance Co. in Madison, Wis.

FTC Examines E-commerce Barriers

Feds see problems with state laws, industry rules

BY PATRICK THIBODEAU
WASHINGTON

ERealty Inc. calls its e-commerce Web site an intranet. Access is controlled, and customers must log on to see real estate listings — an experience intended to model a visit to a broker. But its business model may be under attack.

The National Association of Realtors (NAR) next month will decide whether Houston-based eRealty, and companies like it, can have unfettered access to property listings. The NAR may give brokers fearful of competition the right to block listings on what eRealty calls its Virtual Office Web site.

Such a move would force eRealty to undertake coding work on its systems and make listing information that can't be displayed on the Web available to customers via e-mail and fax, said George Stephens, eRealty's director of compliance. IT costs would increase, he said.

Next week, the U.S. Federal Trade Commission (FTC) will hear from eRealty officials, as well as about 70 other experts, industry representatives and corporate executives, on whether states and industry groups are erecting anticompetitive barriers to e-commerce. It will examine a range of industries including automotive, financial services, pharmaceutical sales, online legal services, financial services and retailing.

Taking Action

The FTC sees problems. Last year, it formed a task force to investigate the issue but has already made moves to prevent anticompetitive actions. For instance, in the late 1990s, a group of 25 Chrysler dealers threatened to refuse to sell certain models unless Chrysler limited its supply of cars to an Internet seller. The FTC filed a complaint against the dealers, resulting in a settlement that ended the threat.

Some states bar financial services firms from operating unless they have an in-state office. FTC officials say they can see possible consumer protections to such a rule, but anticompetitive issues arise if consumer choice is restricted.

Another area is wine sales. The FTC will hear from Daniel McFadden, the 2000 Nobel laureate in economics and a California vineyard owner. He will urge the FTC to combat restrictive sales practices, such as a Florida law that bars residents from having wine shipped in from out of state.

A Florida resident visiting a California vineyard can't have wine shipped home, even though it would be legal to purchase the wine in Florida, McFadden said in prepared remarks released by the FTC. "The Florida legislation is a direct attack on interstate commerce, making a transaction illegal simply because it crosses state lines," he wrote.

Although a wide range of subjects will be covered, one key group that won't be speaking at the hearing is the NAR. The association is still debating whether a listing broker can control use of listing data by competitors. Until a policy is set, it isn't ready to discuss the matter, said Laurie Janik, the NAR's general counsel. The NAR was invited to speak at the event but declined for that reason, she said. ◗

Thwarting Competition?

The FTC isn't convinced that the e-commerce marketplace is unfettered. Areas of concern include the following:

RETAILING: Feds are examining whether some distributors are discouraging suppliers from selling online.

REAL ESTATE: Some states are requiring attorneys to be physically present for all closings and refinancings. Rules could impede online sellers.

DEATH CARE: You can buy casket online, but some states require sales through licensed funeral directors at a funeral home.

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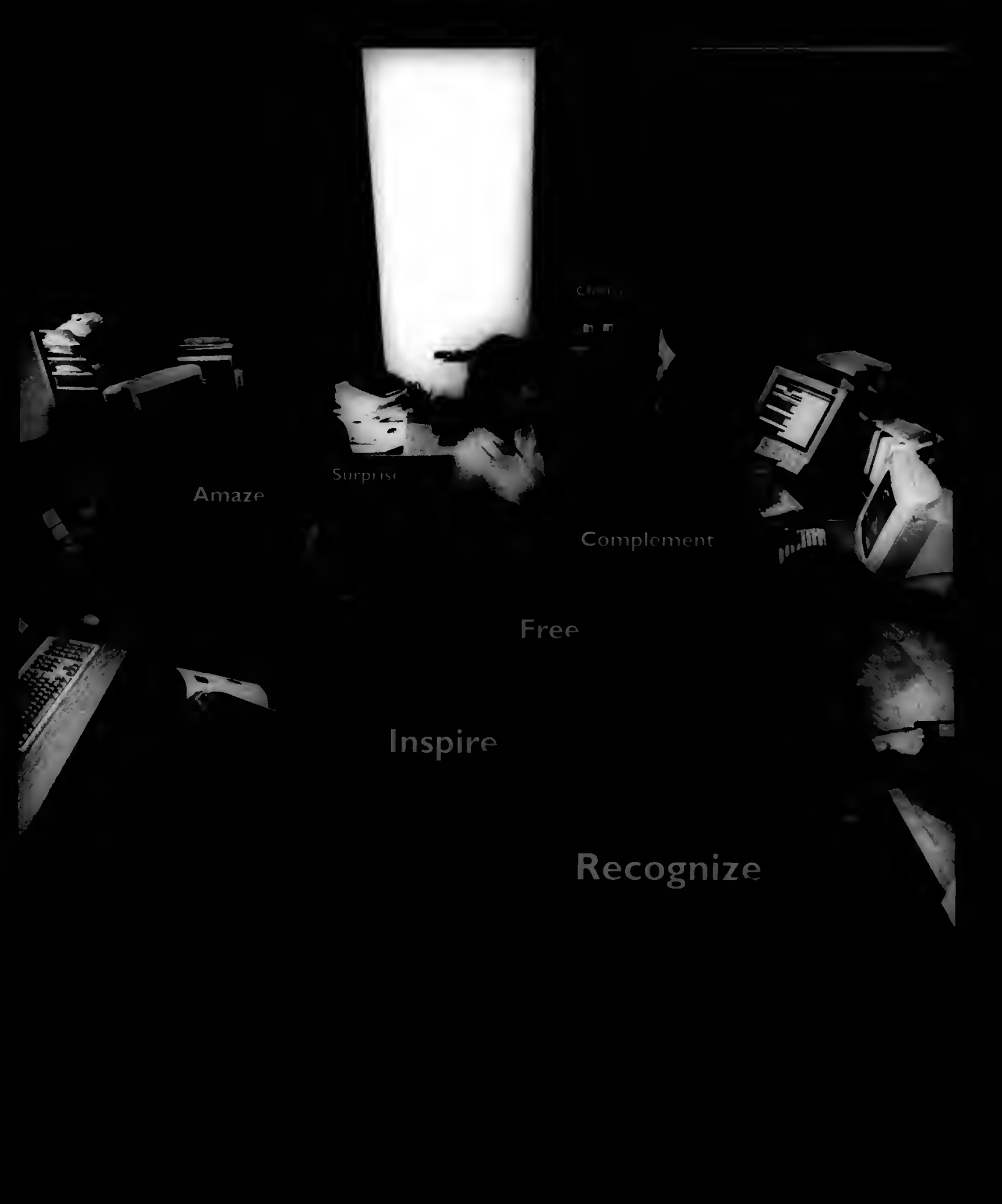
Surprise
Amaze
Complement
Free
Inspire
Recognize

BRIEFS

Dell Increases Q3 Revenue Forecast

Dell Computer Corp. raised the revenue forecast for its third quarter, which ends Nov. 1. Dell said it now expects business to total $9.1 billion, up from its initial prediction of $8.9 billion. The new target would amount to a 22% increase over the $7.5 billion in revenue that Dell reported for last year's third quarter. Profits should be up more than 30% year-to-year, the company said.

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SAP Taps Ex-Siebel Exec as U.S. CEO

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NetApp Tries to Bridge The SAN/NAS Divide

Vendor's new devices, software upgrade support both storage approaches

BY LUCAS MEARIAN
NEW YORK

Network Appliance Inc. last week took its first plunge into the storage-area network (SAN) market by announcing a line of storage devices that can perform both file- and block-level data transfers from a single pool of disk drives.

Analysts said the new products are the first to eliminate the differences between SAN and network-attached storage (NAS) devices. Until now, users have had to bridge that gap by outfitting disk arrays with a gateway device, such as a NAS engine or "head" that has its own operating software.

At a press conference here, Network Appliance executives said the Sunnyvale, Calif.-based company has upgraded its Data OnTap software to support Fibre Channel SANs in addition to NAS applications. The combination of the software and the new Fabric Attached Storage 900 (FAS900) hardware is aimed at greatly reducing storage management headaches and wasted disk space for corporate users, Network Appliance said.

The company introduced two FAS900 models that have 8TB to 32TB of storage space (see box). The devices are priced from $150,000 to $1 million, and Network Appliance said their capacity will be increased to 48TB by mid-2003.

NAS Evangelist

While rival vendors have pursued SAN technology, Network Appliance has spent the past 10 years evangelizing for NAS devices. But Dave Hitz, executive vice president of engineering at Network Appliance, said the company is getting into the SAN market because of user demand. He said SAN technology has also opened partnerships for Network Appliance, including deals to resell storage switches made by McData Corp. in Broomfield, Colo., and Brocade Communications Systems Inc. in San Jose.

Rick Hulsey, a system design engineer at Southwest Airlines Co. in Dallas, said the airline bought a pair of the FAS900 devices two months ago as a beta tester and is using their NAS capabilities to reduce the time it takes to back up data.

Southwest already stores 15TB of data on 16 older Network Appliance file servers and now needs less than five minute to complete some backups that previously took seven to 10 hours, Hulsey said.

But, he added, what he's "really salivating over" is Network Appliance's plan to add support for native SCSI over IP connectivity to the FAS900 line next year. "We can use that to take advantage of our Cisco infrastructure," he said.

The FAS900 devices can manage both NAS volumes and SAN logical unit numbers and allocate storage between the two modes, Hitz said. "The No. 1 advantage to our approach is simplicity. The vast majority of applications can go either way [SAN or NAS], anyway," he said.

Steve Duplessie, an analyst at Enterprise Storage Group Inc. in Milford, Mass., predicted that Network Appliance will have success selling its well-established NAS installed base. The combined SAN/NAS functionality is "a fantastic feature for existing customers," he said. ▶

Separate No More

Network Appliance is building the following features into its FAS900 arrays:

- **Support for storing both file- and block-level data**
- **Storage capacity of up to 32TB**
- **RAID capabilities and hot-swappable disks**
- **Data snapshot features for backup uses**
- **Redundant power supplies and cooling fans**

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Sun Fights Back With Workgroup Disk Arrays

Line aims to regain sales company lost to competitors

BY LUCAS MEARIAN

Looking to reclaim sales it has lost to rivals such as EMC Corp. and Hewlett-Packard Co., Sun Microsystems Inc. last week announced a line of midrange disk arrays targeted at workgroup applications.

The first model in Sun's StorEdge 3300 series is due to ship in mid-October with a capacity of 3.4TB. The arrays, which were developed for Sun by Carlsbad, Calif.-based Dot Hill Systems Corp., support Sun's entry-level servers and rival systems running under Linux, Unix and Windows. Prices start at $7,000.

"This is aimed at the volume user — customers that buy smaller servers that eventually need expansion," said Mark Canepa, executive vice president of network storage at Sun.

That's a market where Sun has had problems in storage, said Steve Duplessie, an analyst at Enterprise Storage Group Inc. in Milford, Mass. The former Compaq Computer Corp., now part of HP, "has run willy-nilly over Sun" at the workgroup level, he said.

AT A GLANCE

On the StorEdge

Sun's new disk arrays include:

- **Maximum storage capacity of 3.4TB**
- **Hot-swappable drives**
- **Single or dual RAID controllers**
- **Browser-based remote management software**

But the addition of the StorEdge 3300 lets Sun "cover all their own bases," Duplessie said. "This is a viable, competitive midrange product." The new arrays should appeal to Sun server users that would rather deal with one hardware vendor than two, he added.

Bruce Baumgarte, a technical staff member at Dallas-based Texas Instruments Inc., is testing a StorEdge 3310 for storing the software used to boot the semiconductor maker's Sun Fire 4800 and V880 servers. "It looks like a good piece of hardware to me," Baumgarte said.

But the competition isn't letting up on Sun. Hopkinton, Mass.-based EMC today plans to expand its line of midrange arrays by adding the Clariion CX400, a follow-on to the CX600 model it announced in August [QuickLink 32019].

EMC officials said the CX400 has a storage capacity of up to 4.4TB and will be resold by Dell Computer Corp. List prices start at $66,000 for a 180GB model. ▶

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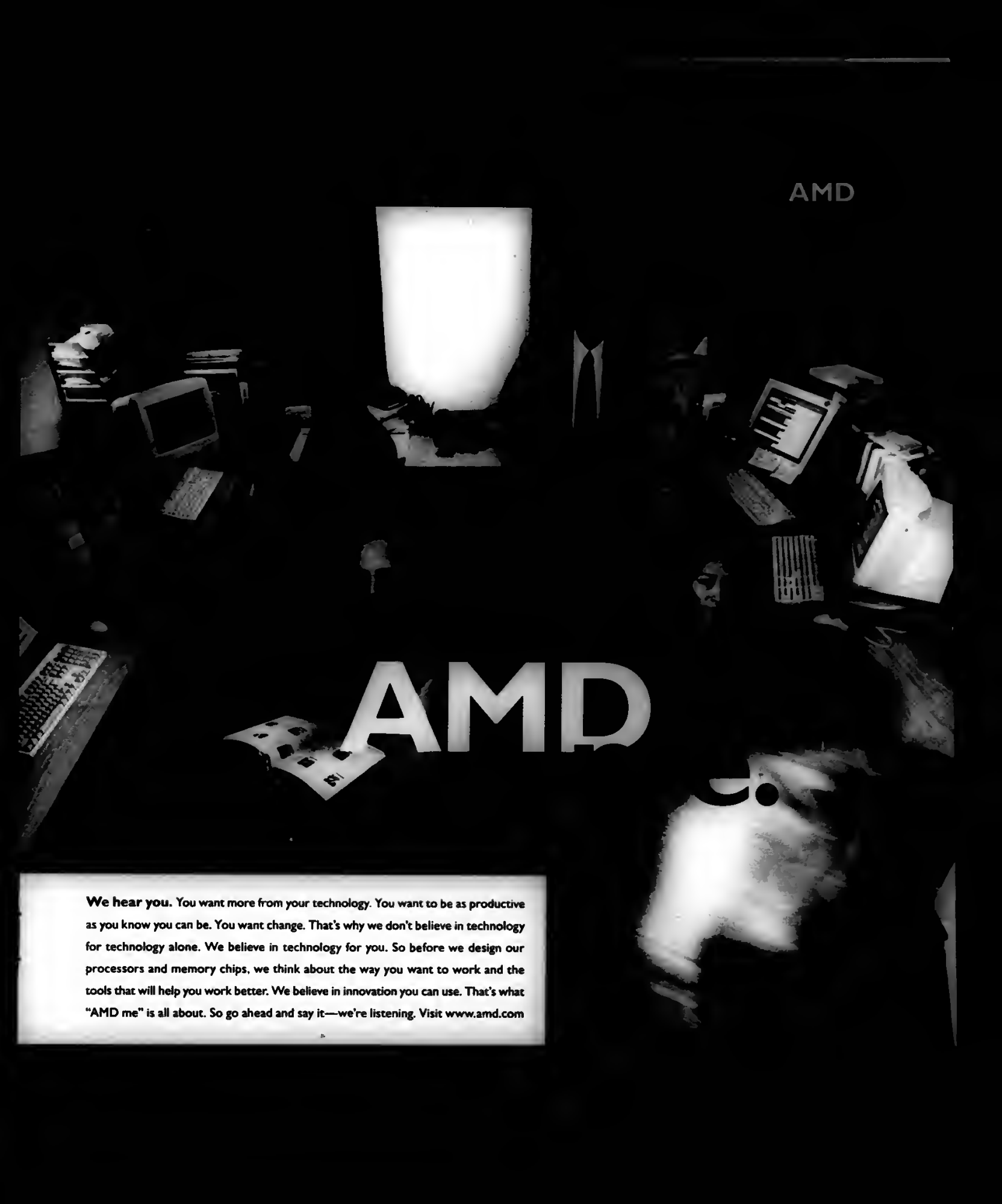
AMD



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Teradata Mixes Real-time, Historical Data Analysis

NCR unit readies data warehouse software upgrade

BY MARC L. SONOINI

NCR Corp.'s Teradata division is upgrading its namesake data warehouse software so that companies can use it as a single repository that supports both real-time and strategic data analysis applications.

Dayton, Ohio-based NCR last week aonounced Teradata Warehouse 7.0, which is due for release in December. NCR said the new version will offer nearly 150 enhancements, including improved query performance and a Web browser-based user interface for launching queries.

The software is built around an upgraded version of Teradata's decision-support database, which is called Version 2 Release 5 (V2R5) and is nuw in beta testing. The upgrade will let end users launch either complex searches of a data warehouse or smaller, more specific queries, said Vickie Farrell, vice president of Teradata warehouse marketing.

That should make it possible for Teradata customers to cut their IT costs by collapsing data marts and other small analytical databases into a single data warehouse, she said. They can also cut down on the cost of maintaining and synchronizing various business intelligence applications.

More Data for Queries

Currently, Teradata users can run exhaustive queries against pools of historical data. In addition, Teradata Warehouse 7.0 will support queries that incorporate real-time and historical data simultaneously.

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More From Teradata

At its user conference in Las Vegas, Teradata also announced:

- **The release of Version 3.0** of its Demand Chain Management software, which is designed to help retailers automate inventory replenishment
- **An expansion of its applications** for manufacturers, including new analytical supply chain software
- **A program that lets users install** Teradata's marketing analysis software for a six-month trial to measure potential ROI

Sun ONE Portal Gets Secure Remote Access

Channel encrypted for authentication

BY JAIKUMAR VIJAYAN

SUN MICROSYSTEMS Inc. this week will boost the capabilities of its Sun Open Net Environment (ONE) Portal Server 6.0 technology with new secure remote access functionality.

The Secure Remote Access 6 product will allow users to securely access applications and services hosted oo Sun ONE portals from any remote client using standard browsers, according to Sun.

Sun's portal server software comes with integrated identity management functions aimed at enabling access control, policy management and single sign-on. This week's announcement "is about enabling an enterprise to give an extranet or remote access capabilities to either an employee or business partner," said Adam Abramski, a Sun product manager.

Remote users can access the portal services via a browser, and user authentication and access control functions are handled over an encrypted channel between the remote client and the Sun ONE identity management server.

All communications between client and portal are protected using standard cryptographic algorithms such as Secure Sockets Layer (SSL) and Triple Data Encryption Standard (DES), according to Abramski.

It's this "[virtual private network]-on-demand capability" that makes the Sun ONE Portal Server's remote access support appealing, said Gary Horn, manager of network services at Advocate Health Care in Oak Brook, Ill.

Advocate is using the portal technology to deliver patient care and other content to physicians and its associate organizations. Previously, such users would have to use dial-up connections to log into Advocate's servers to get the data. ◗

Sun's Portal Technology:

- Lets users log into business portals from anywhere using standard browsers.
- Uses the Sun ONE Portal server as the centralized identity management and access control server.
- Supports encryption standards such as SSL and Triple DES.

Continued from page 1

Home Depot

technology," said DeRodes, who joined Home Depot early this year. But, he added, "because of the rate of [technical] change, the last guy in has the advantage. That's us."

The Home Depot system will initially consist of two 32-processor IBM p690s connected together to function as one logical unit. The size of the data warehouse can be expanded by adding mure servers and is "virtually unlimited," DeRodes said.

The first phase will be used to automate performance management functions for Home Depot's 300,000 employees. The company is building in metrics to measure worker perfurmance as part of an effort to retain and reward its personnel, DeRodes said.

Managers at Home Depot will be able to access tbe data warehouse and run queries through a preconfigured dashboard user interface, he added.

The next step, scheduled to begin in the first quarter of next year, will be to feed in transactional information. Eventually, the data warehouse will take near-real-time feeds of sales data and assist with pricing, inventory forecasting and space management inside stores, DeRodes said.

Kevin Murphy, vice president of information management at Home Depot, said the retailer has as many as 100 mainframe-based DB2 databases. But they're used only for production applications and can't be accessed via the Web, Murphy said.

Paula Rosenblum, an analyst at AMR Researcb Inc. in Boston, said the Home Depot contract is a particularly big win for IBM in the data warehousing market. Deals of this size typically go to Teradata, the data warehousing division of Dayton, Ohio-based NCR Corp., Rosenblum said (see related story at left).

Home Depot is ahead of other retailers in some IT areas, such as its deployment of wireless Java applications in its stores, Rosenblum said. But it lags behind in data warehousing, she added. Different retailers "often have islands of profound automation for some segments of their business and islands of despair in other departments," Rosenblum said.

In a survey on IT spending in tbe retail industry this year, 29% of approximately 100 respondents said the implementation of business intelligence applications will be the most important IT-related strategic initiative for 2003, according to Rosenblum. ◗

Teradata Mixes Real-time, Historical Data Analysis

NCR unit readies data warehouse software upgrade

BY MARC L. SONGINI

NCR Corp.'s Teradata division is upgrading its namesake data warehouse software so that companies can use it as a single repository that supports both real-time and strategic data analysis applications.

Dayton, Ohio-based NCR last week announced Teradata Warehouse 7.0, which is due for release in December. NCR said the new version will offer nearly 150 enhancements, including improved query performance and a Web browser-based user interface for launching queries.

The software is built around an upgraded version of Teradata's decision-support database, which is called Version 2 Release 5 (V2R5) and is now in beta testing. The upgrade will let end users launch either complex searches of a data warehouse or smaller, more specific queries, said Vickie Farrell, vice president of Teradata warehouse marketing.

That should make it possible for Teradata customers to cut their IT costs by collapsing data marts and other small analytical databases into a single data warehouse, she said. They can also cut down on the cost of maintaining and synchronizing various business intelligence applications.

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Microsoft

Don't Count Us Out, Says Novell's CTO

Nugent: One Net plan, better marketing set stage for rebound

BY MATT HAMBLEN

ALAN NUGENT became Novell Inc.'s chief technology officer in June. Nugent, who previously held CIO jobs at two companies, spoke with *Computerworld* last week about Novell's strategy and his reasons for joining the software and services vendor.

What will be the big business focus areas for Novell? There are four. One is the Web applications development space, with our Extend product. Next is secure identity management, a collection of technologies and services that address provisioning across the network and directory-based policy management, such as single sign-on. The third is cross-platform network services, which include traditional network services that are now available on Linux, Windows and Solaris. Lastly, it's consulting and technical services.

What do you offer in services that other vendors don't? We tend to offer what others offer, but we come at it from a slightly different perspective. We're not in there to help a customer implement an application package. We're there to help them solve a business problem that typically goes across application areas. Say I want to have a portal that gives my employees access to finance and HR and manufacturing apps, with one view into traditional silo areas. There are very few [services] vendors that can do that well.

How is the poor economy affecting Novell? We don't see the economy any differently than anybody else does right now. From the industry perspective, everybody is collectively holding their breath to see when things go back toward normal. [At] Novell, this is a good year for us. We've had two profitable quarters, and our business has grown over last year, so I guess our expectation is that as market conditions improve, we'll improve along with the market.

Why did you join the company, especially when so many people have been asking, "What happened to Novell?" It's an interesting question. I joined for a variety of reasons. I'd been a Novell customer over the years and had seen both the growth Novell experienced and the market and technical leadership they had, and I also watched Novell struggle a little bit over the past few years. The drawing card for me was the direction that the company has established strategically around the "One Net" [Novell's vision for helping users to consolidate multiple networks].

Novell has for many, many years done a good job of marketing to its installed base, but we need to do a better job of listening to the greater market, people who are customers and who are not customers, and focusing on the business side. People should stay tuned: The next Novell is coming.

NOVELL'S WEB TOOLS UPGRADE

The vendor is adding Java 2 Enterprise Edition support and other new features to its Extend product line.

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I certify that the statements made by me above are correct and complete.

Robert Wescott
Distribution Manager

IBM Readies Software For Monitoring Storage

Rollout of resource management tools follows acquisition

BY LUCAS MEARIAN

Taking advantage of its August acquisition of TrelliSoft Corp., IBM this week plans to introduce storage resource management software that lets IT managers track usage of disk and tape devices made by multiple vendors.

IBM said the Java-based Tivoli Storage Resource Manager suite offers capacity-alert and end-user chargeback capabilities, plus 300 preset reports. The software can be used to monitor disk space and set usage thresholds on storage products from IBM and rivals Hewlett-Packard Co., EMC Corp., Hitachi Data Systems Corp. and Storage Technology Corp. It also supports disks built into Unix, Linux and Windows servers, IBM said.

The hardware-agnostic approach lets IT administrators define policies for managing storage across different devices, said Jose Iglesias, director of storage products for IBM's Tivoli Software unit in Austin, Texas.

Tim Masey, manager of IT infrastructure at the Joint Commission of Accreditation of Healthcare Organizations in Oakbrook Terrace, Ill., installed the IBM software's alert feature set last month. He said the technology has cut from hours to minutes the time it takes to measure disk usage levels on three Compaq StorageWorks arrays, 10 HP-UX servers and 60 Windows 2000 servers.

"I used to have a network administrator go out and do a study on each of the systems and report on them manually," Masey said. He added that he would like to see IBM add dynamic storage allocation capabilities to the software, so more space can automatically be made available when an application reaches a capacity threshold.

Masey said he paid less than $100,000 for Storage Resource Manager. The software is priced on a per-processor basis and should cost an average of about $2,000 for each server, according to IBM.

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KEYNOTE
The Internet Performance Authority

Court Sides With Geac in Mainframe Software Case

Panel rules that vendor's copyright was infringed

BY JAIKUMAR VIJAYAN

A ruling last month in a long-standing legal dispute could have big ramifications for companies that use third parties to maintain packaged mainframe applications.

The U.S. Court of Appeals in Philadelphia ruled that Parsipanny, N.J.-based Grace Consulting Inc. violated copyright laws by providing add-on software and maintenance services to users of Geac Computer Corp.'s mainframe applications. The appeals court's decision overturned a June 2000 judgment in favor of Grace by a U.S. District Court judge in Newark, N.J.

The appeals court also reinstated Markham, Ontario-based Geac's claim that Grace misappropriated trade secrets as part of providing its maintenance services. That claim had been dismissed by the trial judge.

"In essence, what the [appeals] court is saying is that the modification of code without the owner's explicit consent constitutes copyright infringement," said John Trent, legal counsel for Geac.

"We feel completely vindicated," added Jay Sherry, a senior vice president at Geac. The verdict in the 8-year-old case will "effectively prevent Grace from continuing to violate our copyright," he said.

But Maxwell Blecher, Grace's attorney in a separate $75 million antitrust lawsuit that the firm filed against Geac in March, said the verdict creates a dangerous precedent.

"It's a little scary to suggest that somebody with a copyright has the prerogative to refuse any third party from servicing its software," said Blecher, a partner at Blecher & Collins LLC in Los Angeles. "It gives such people a monopoly on their service business."

The copyright case dates back to 1994, when the former Dun & Bradstreet Software filed suit against Grace. D&B Software, which was acquired by Geac in 1996, claimed that Grace illegally copied, sold and modified its software while providing third-party maintenance services to users.

Grace admits to using add-on software systems that interoperate with Geac's software through the use of Cobol CALL and COPY commands. To make that work, Grace developed a program that extracts data from one of Geac's human resources applications and executes the code.

But the development work was aimed solely at making Geac's software more interoperable, claimed Anthony Ilutzi, Grace's president. At no point did Grace modify the applications or create derivative products from Geac's code, Ilutzi said. He contended that the lawsuit is an attempt by Geac to stop lower-cost rivals from stealing services business.

As a result of the appeals court's verdict, Grace probably will have to modify the way its software interacts with Geac's applications, Ilutzi said. But Grace will continue to provide services to its 80 Geac customers as usual, he added.

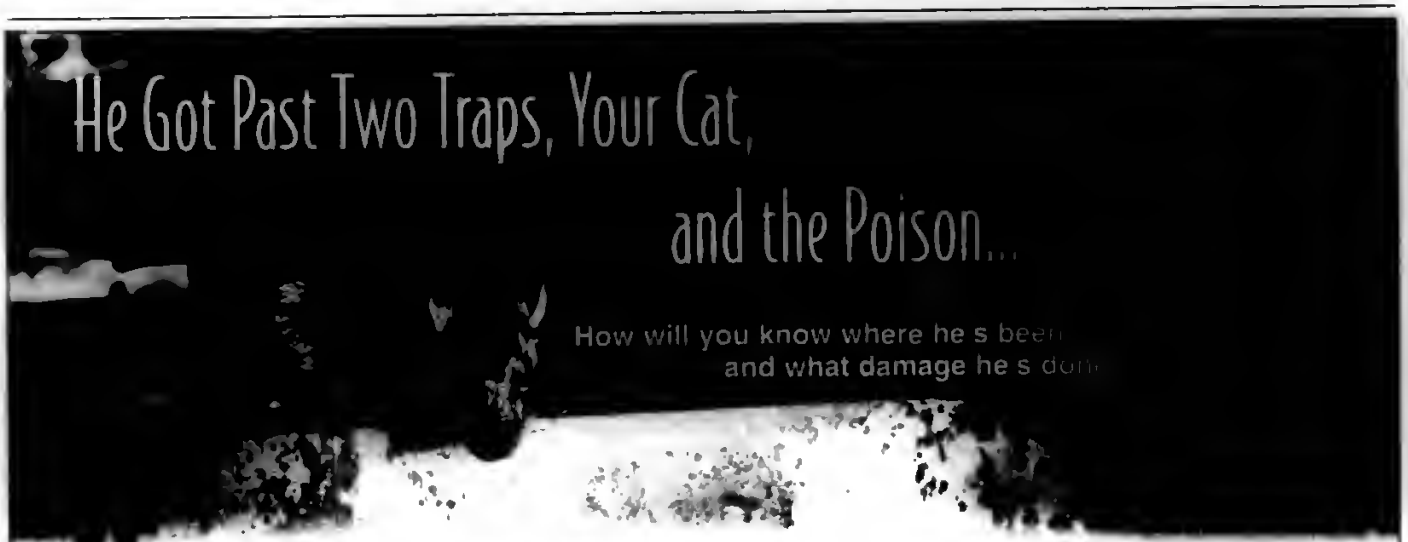
Geac vs. Grace

MARCH 1994: Grace Consulting is sued for copyright violations by D&B Software, which later is acquired by Geac.

JUNE 2000: A U.S. District Court judge sides with Grace.

MARCH 2002: Grace files a $75 million antitrust suit against Geac, which is still pending.

SEPTEMBER 2002: An appeals court rules that Grace violated Geac's copyright.



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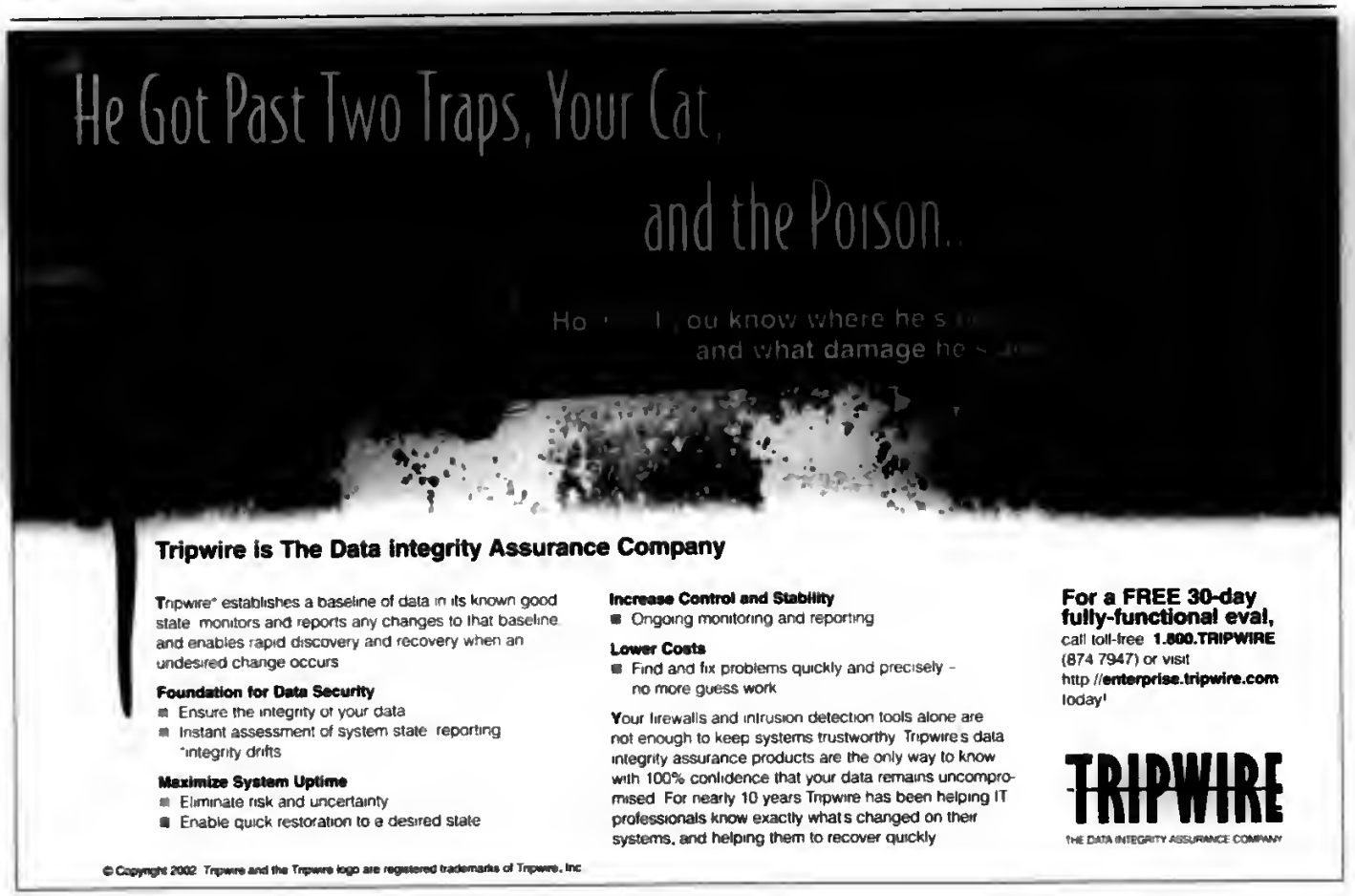
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MARYFRAN JOHNSON

Avoid the 'Gotcha'

IF YOU'VE EVER had consultants perform a security audit on your network then you know all about the "gotcha report." That's what security wonks call the big, thick, overwhelming document handed over after an audit that shows the results from automated scans used to pinpoint the thousands of vulnerabilities and likely attack points on your company's network.

Unfortunately, it's about as useful as a "to-do" list that's 60,000 items long.

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FIELD REPORT: Asset Management
Asset management tools go beyond PC tracking to combine inventory, financial and cootractual management information. But integration with other applications is still evolving while users learn to configure the software and their business processes to solve asset management problems. **Page 32**

Slow Rollout for Tablet PCs
Early users give Tablet PCs, with their pen-input systems, a thumbs up for some applications, but widespread adoption in corporations is still years away. In Emerging Technologies, we look at the potential uses — and problems — of this new way to compute. **Page 34**

Good Numbers Needed
A survey of Siebel Systems reference customers found that the majority of them haven't gotten the ROI they were hoping for from the vendor's CRM system. That points to a pressing need throughout the IT industry, says columnist Robert L. Scheier. **Page 40**

VOIP: Don't Overlook SECURITY

The addition of voice to data networks raises security problems that could be forgotten as companies focus on issues like latency and interoperability. By Jaikumar Vijayan

CORPORATIONS THAT ARE implementing voice over IP (VOIP) technologies in a bid to cut communications costs shouldn't overlook the security risks that can crop up when the voice and data worlds converge, users and analysts say.

Most users implementing VOIP these days are primarily concerned about voice quality, latency and interoperability. All are fundamental quality-of-service considerations that companies need to deal with before they can even begin justifying the move to VOIP.

But some security organizations are cautioning users about the dangers of unsecured VOIP services. For instance, in an August 2001 paper on its Web site, the Bethesda, Md.-based SANS Institute warned of privacy- and authentication-related issues stemming from VOIP services and urged users to apply the same precautions they've used to protect their data services.

"With the convergence of the voice and data worlds, the real similarities of the security concerns will become apparent," the SANS report said, urging users to take measures such as encrypting voice services, building redundancy into their VOIP networks, locking down their VOIP servers and performing regular security audits.

Without a sharp focus on security as well, VOIP will never make it into corporate use, say users and analysts.

With VOIP, voice traffic is carried over a packet-switched data network via Internet Protocol. VOIP networks treat voice as another form of data but use sophisticated voice-compression algorithms to ensure optimal bandwidth utilization. As a result, VOIP networks are able to carry many more voice calls than traditional switched circuit networks. VOIP also enables enhanced services such as unified communications.

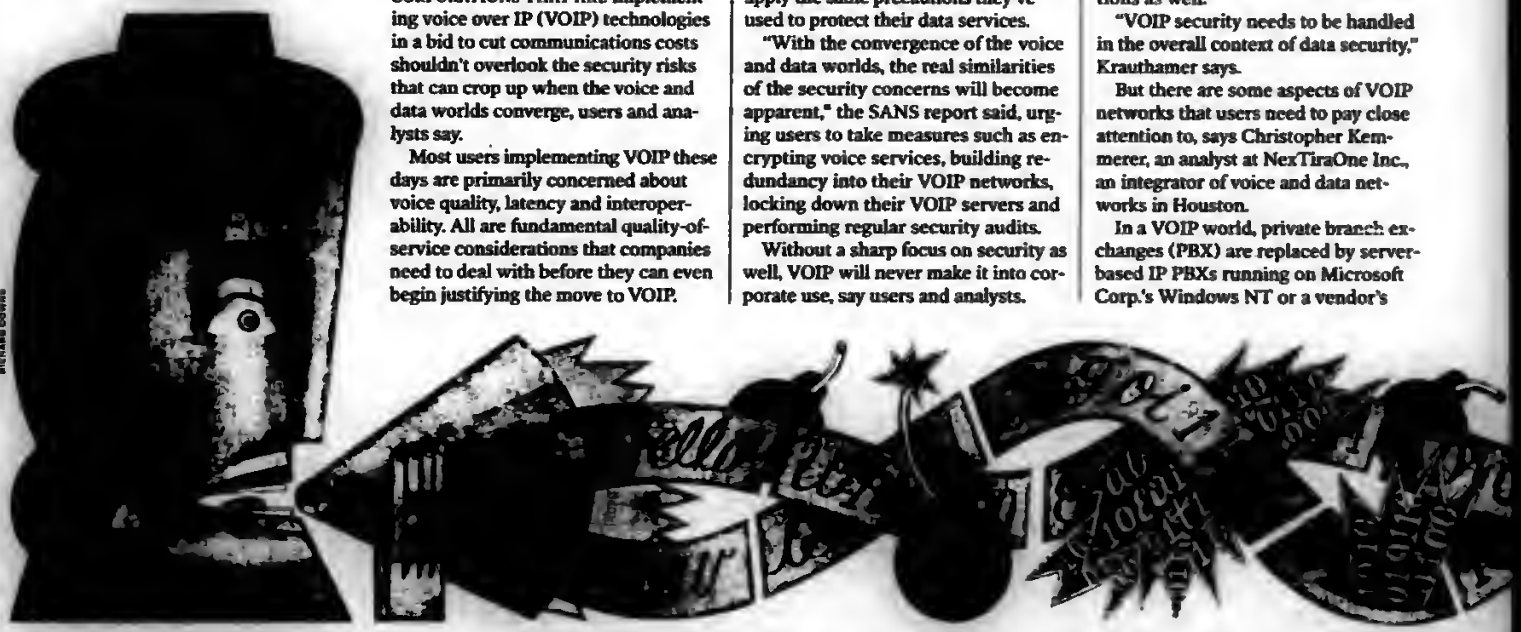
Voice as Data

Securing voice traffic on such networks isn't very different from securing any data traffic on an IP network, says David Krauthamer, director of IT at Advanced Fibre Communications Inc. (AFC), a Petaluma, Calif.-based manufacturer of telecommunications equipment. AFC is using limited VOIP communications internally and may use it for external communications as well.

"VOIP security needs to be handled in the overall context of data security," Krauthamer says.

But there are some aspects of VOIP networks that users need to pay close attention to, says Christopher Kemmerer, an analyst at NexTiraOne Inc., an integrator of voice and data networks in Houston.

In a VOIP world, private branch exchanges (PBX) are replaced by server-based IP PBXs running on Microsoft Corp.'s Windows NT or a vendor's



BRENNAN O'DWYER

proprietary operating system. Such call management boxes, which are used both for serving up VOIP services and for logging call information, are susceptible to virus attacks and hackers. Break-ins of these servers could result in the loss or compromise of potentially sensitive data, Kemmerer says.

Consequently, it's important that such equipment is properly locked down, placed behind firewalls, patched against vulnerabilities and frequently monitored using intrusion-detection systems, he says.

The University of Houston went one step further and made sure that its call manager and its entire VOIP network aren't directly accessible from the Internet. The school has put its IP PBXs in a different domain than its other servers and has limited administration access to the servers.

"As a university, the potential for being hacked or coming under a denial-of-service attack is a huge concern for us," says Charles Chambers, the university's manager of network planning and development.

Trouble at the Gateways

VOIP gateway technologies are also a potential weak point. When VOIP is used externally, gateway technologies convert data packets from the IP network into voice before sending them over a public switched telephone network. When VOIP is used internally, the gateways basically route packetized voice data between the source and the destination.

The concern here is that such gateways can be hacked into by malicious attackers in order to make free telephone calls, Chambers says. The trick to protecting against this lies in having strict access-control lists and making sure the gateway is configured in such a fashion that only the people on this list are permitted to make and receive VOIP calls, he says.

"We are mainly trying to make sure that the scope and access is restricted to a minimal number of people so that our exposure [to threats] is reduced," Chambers says.

As with traditional telephony, eavesdropping is a concern for organizations using VOIP — and the consequences can be greater, says Charlie Rabie, a vice president at Aspect Communications Corp. in San Jose. Aspect is a provider of software and services for implementing VOIP, traditional telephony and other communication services.

Because voice travels in packets over the data network, hackers can use data-sniffing and other hacking tools to identify, modify, store and play back voice traffic traversing the network, Kemmerer says.

A hacker breaking into a VOIP data stream has access to a lot more calls than he would with traditional telephone tapping. As a result, "one of the big differences is that a hacker has a much higher probability of getting intelligent information" from tapping a VOIP data stream than from monitoring traditional phone systems, Rabie says.

Encryption Helps

Separating and isolating voice traffic onto a virtual LAN is one way of mitigating that risk, Kemmerer says.

So is encrypting VOIP traffic and running it over a virtual private network (VPN) when dealing with external communications, Krauthamer says. Some of AFC's salespeople and remote workers use VOIP to communicate with the head office. All of this communication takes place under the security of a VPN using multiple encryption layers, Krauthamer says.

It might be a good idea to encrypt VOIP traffic flowing internally over a corporate network to prevent insider attacks, Rabie notes.

The use of desktop-based soft phones to make and receive VOIP-based telephone calls can also result in dangerous holes being punched into the corporate firewall that hackers could exploit, warns Kemmerer.

Once again, the best way to address this problem is to restrict use through access lists and to ensure that all inbound VOIP traffic that flows through a corporate firewall is routed through a gateway server to eliminate a direct connection to the Internet, he says.

VOIP security is a challenge that is "inextricably linked" with issues such as interoperability with data networks and quality of service, says Rabie.

But ultimately, it's important to remember that securing a VOIP infrastructure involves nothing that is "drastically different" from the measures corporations have always taken to protect their data, Kemmerer says.

"Security issues relating to VOIP have only begun to surface over the last one year," he says. "But this has to be a major consideration. Chances are, you are unlikely to get hacked. But once you do, you'll never forget it." ◗

PRODUCT OPTIONS

The following are among the growing number of products designed to secure VOIP communications:

- **WinSet** from Aspect Communications is aimed at letting remote users connect to the corporate network using IP telephony via VPN links.
- **Secure Virtual Network** from Check Point Software Technologies Ltd. in Redwood City, Calif., is a packet inspection technology designed to inspect VOIP traffic – including the various protocols that are involved in VOIP transmissions – for possible security threats.
- **The PeerPoint Enterprise Edition** server from Jasomi Networks Inc. in San Jose was designed to securely translate VOIP call streams between an internal IP network and a public network.
- **Ingate Firewalls** from Ingate Systems AB in Stockholm are Session Initiation Protocol-aware and therefore designed to let VOIP traffic flow securely in and out of corporate networks.
- **Cisco Pix 500 Series firewalls** from Cisco Systems Inc. were designed for a wide spectrum of applications, including VOIP.

A FALSE SENSE OF SECURITY

VOIP users could get burned because security doesn't appear to be among their primary concerns.

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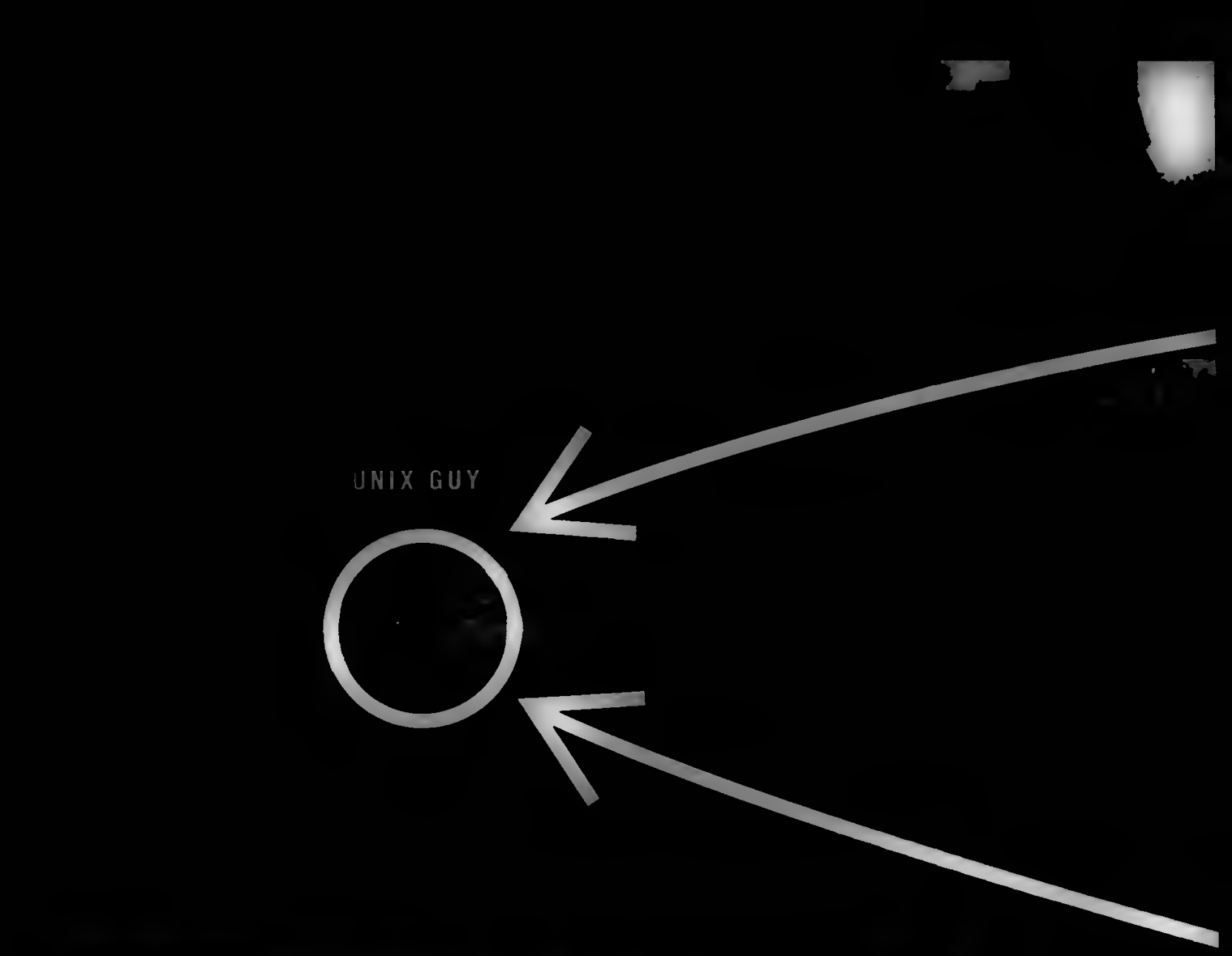

OPEN INFRASTRUCTURE

INTEGRATION PLAY

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2] IBM is helping write the book on open standards. We have WebSphere® integration software. A slew of Linux experts. UNIX® specialists. Windows NT® know-it-alls. XML developers. And tens of thousands of integration experts at your beck and call.

3] For more Winning Plays, visit **ibm.com**/e-business

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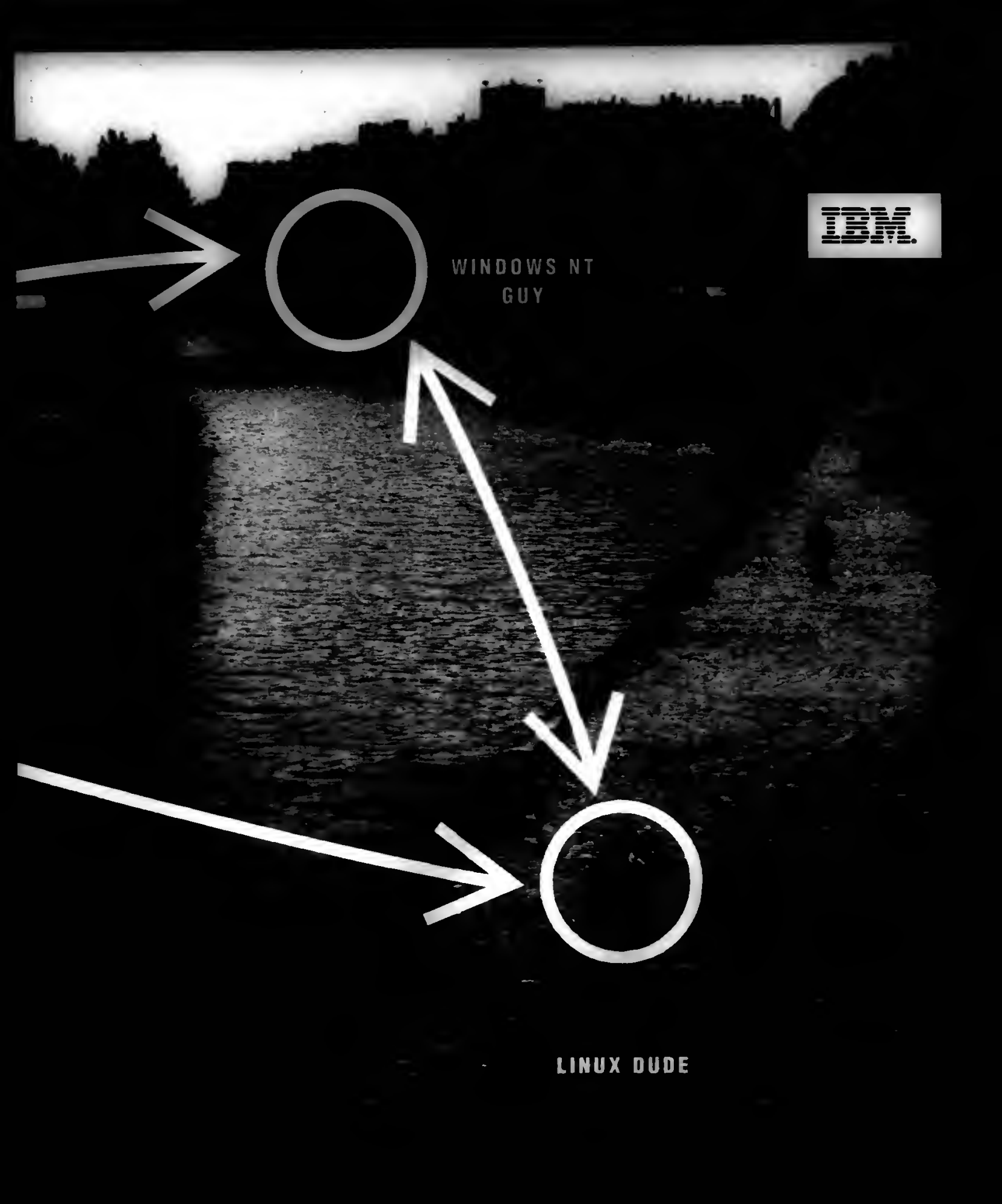
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WINDOWS NT
GUY
LINUX DUDE

Asset Management Extends IT Control

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To accomplish this, most products include an autodiscovery feature that creates an inventory of networked PCs, servers and other IT assets. However, limitations in that technology mean that a physical inventory still must be taken, because many assets either exist outside the network or the tools fail to recognize an asset or some of its attributes.

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Asset management software has evolved beyond simple inventory tracking to become the central repository for a variety of IT asset data, blending the physical inventory with financial and contractual information (see diagram, below). Most tools also attempt to track assets wheo they're moved or changed. But, again, users say, regular, manual audits and updates are necessary in order to make sure the data is accurate.

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Think Process

The biggest challenges IT faces with asset management software aren't technical. "You really are looking at reengineering processes rather than using tools," says Patricia Adams, an analyst at Stamford, Conn.-based Gartner Inc. "If you break it down, it's about 80% process and 20% tool."

IT must also choose and design asset management systems around different audiences, taking into account who uses the information, and how.

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A key for Bayer was finding an IT asset management system that could work with IT Infrastructure Library's service management best practices (*www.itil.co.uk/about_itil/itil_about.htm*), which Bayer has adopted.

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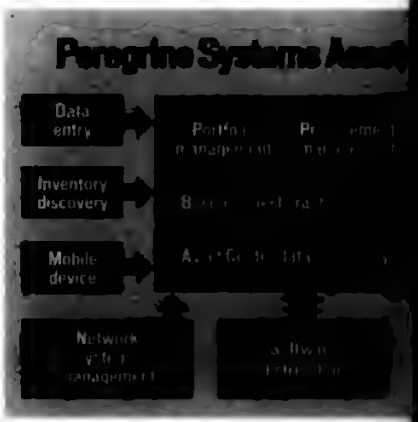

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QuickLink 32969

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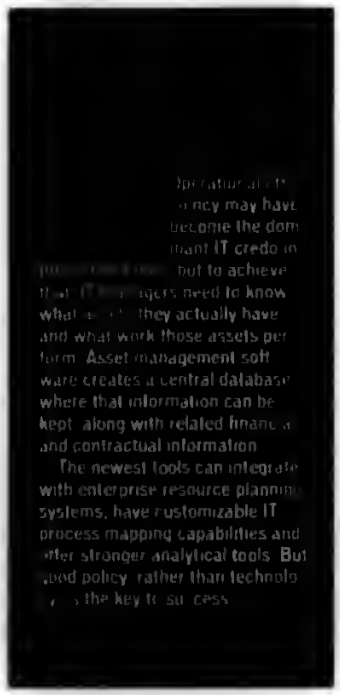
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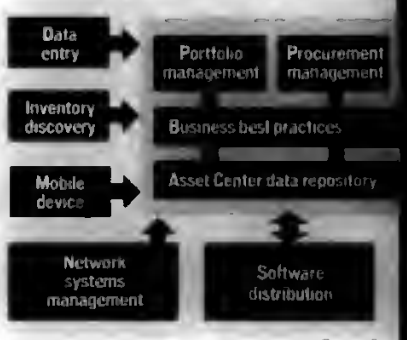

Six Tips for Success

At a minimum, look for asset autodiscovery, an asset database and software-usage metering capabilities.

Don't expect autodiscovery to do it all – building and maintaining the asset database can require substantial manual input.

Implement the processes needed to keep information current and accurate before deploying a tool.

Make sure asset management tools run on servers with a continuous network connection.

Don't rush. Build an asset management database in stages. A fully populated database can take up to three years to create.

Don't relegate the asset and license management functions to a silo. Make them a direct report to the CIO or chief technology officer.

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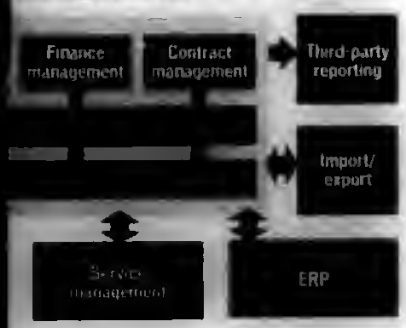

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Tablet PCs Begin Slow Rollout

Early users give the pen input systems a thumbs up for some applications, but widespread adoption is still years away. By Matt Hamblen

EMERGING TECHNOLOGIES

WHEN MICROSOFT Corp.'s Windows XP Tablet Edition officially launches Nov. 7, several notebook computer manufacturers plan to introduce the first Tablet PCs. Early corporate beta testers are giving these devices — and the technology — mostly positive reviews.

Users say they like the basic idea behind Tablet PCs: Using the Tablet Edition's Journal applet or other applications, users can write words with an electromagnetic digitizer pen on a specially adapted LCD screen that acts as a writing surface. The system can then either store the note in a format called "digital ink" or convert it into an ASCII text file.

For at least one user, the operating system's ability to convert handwriting to text is superfluous. About 20 attorneys are testing Tablet PCs at Weil, Gotshal & Manges LLP, a 2,400-member law firm in New York. They're using the Tablet Edition's Journal applet principally to annotate Microsoft Word documents with handwritten notations, says CIO James McGinnis.

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McGinnis was sufficiently impressed that, as the law firm retires nearly 1,500 laptops, he plans to replace them with Tablet PCs.

Weil, Gotshal & Manges has tested Taipei, Taiwan-based Acer Inc.'s TravelMate 100, a notebook PC that a user can convert to a tablet device by swiveling and folding the display down over the keyboard [QuickLink 31724].

But McGinnis says he's more impressed with native tablet designs such as the 12-in. screen tablet by Motion Computing Inc., an Austin, Texas-based company whose founders include former Dell Computer Corp. executives.

Easy to Use

General Motors Corp. Chief Technology Officer Tony Scott has also tested the Acer machine and another unit from Hewlett-Packard Co. and has used digital ink within Microsoft Excel, Word and PowerPoint files. He says it's "very functional and usable," both for managers inside the firewall and for field service workers.

Scott says the handwriting conversion works well, but he would like to see brighter screens and an increase in battery life from the current three or four hours to at least six. He adds that he's also concerned about the storage requirements for digital ink image files, which need more space than corresponding ASCII text files.

Analysts are voicing other concerns about the product.

For example, Ken Dulaney at Gartner Inc. in Stamford, Conn., says that tablet devices will create added costs for corporations that must support the new digital ink images. That, he says, "will limit adoption to a selected few."

Dulaney predicts that only 3% of all notebooks purchased by the end of 2004 will be Tablet PC-enabled laptops. He adds that a broader commitment by vendors is necessary to spur adoption, pointing out that both Dell and IBM "now sit on the sidelines." ▶

■ AT A GLANCE

Tablet PC

WHAT IS IT? A combination of Microsoft's Windows XP Tablet Edition with portable tablet computing devices that support handwriting input using a stylus and special LCD screens. The designs offer handwriting recognition or can store "digital ink" image bit maps.

WHAT'S THE BENEFIT? Allows rapid note-taking and document annotation without keyboard input, which means Tablet PCs can be smaller than traditional laptops.

TARGET USERS: Field personnel, such as insurance adjusters, or knowledge workers who find pen input easier than typing.

CAVEATS: Digital ink files require more storage than ASCII text. Early models have a short battery life, and their screens could be brighter, testers say.

■ Q&A

GM Takes On Two Tablets

GM CTO **Tony Scott** comments on the automaker's early tests of Tablet PCs.

Where are you using tablet devices? GM already has thousands of ruggedized tablet units in place in factories, some on wireless networks, but all proprietary platforms from a variety of manufacturers.

What Tablet PCs have you tried? I've had a few hours with the Acer machine and the HP machine. I like the storage of [digital] ink and the use of that within Excel, Word and other places. It's not perfect, but it's far superior to anything else and very functional, usable.

The handwriting recognition works. I'm left-handed, and previous attempts with recognition haven't always worked out.

Where might GM use Tablet PCs? Midlevel and high-level managers. . . . In the WAN, you can start to see some good field service [applications] and apps where you don't have to build special devices.

– *Matt Hamblen*

GETTING IT RIGHT

Early tablet designs may require several iterations before gaining acceptance from corporations.

QuickLink 32767
www.computerworld.com

■ PRODUCTS

Vendors Ready Slate of Offerings

Early Tablet PC designs are likely to sell in the $2,000 range and will use processors from Intel Corp., Transmeta Corp. and VIA Technologies Inc., analysts say.

Initial machines fall into two categories: convertible laptops that support both keyboard and pen input, and native Tablet PCs that don't include a keyboard. Users can use a docking station with a native Tablet PC, though, and hook up an external keyboard and monitor. All that extra desktop hardware adds to the overall system cost, however.

EARLY ENTRIES INCLUDE: Acer's TravelMate 100, the first convertible design, includes a 10.4-in. screen and a 700-MHz Pentium III processor. It supports 802.11b wireless LAN connections, weighs 3.2 lb. and has a screen lid that can either open to reveal a traditional laptop keyboard or swivel and fold over the keyboard to function as a tablet surface for pen input.

Motion Computing's M1200 is a native tablet design that can use a docking station. The unit has no keyboard, weighs less than 3 lb., has a 12.1-in. screen and will cost approximately $2,000, the vendor says.

Fujitsu PC Corp. in Santa Clara, Calif., and **Hewlett-Packard** are developing dockable and convertible models, respectively, but haven't publicly released details.

On the software side, Microsoft plans to offer the **Microsoft Office XP Pack for Tablet PC,** which will support digital ink within Excel, Word, and PowerPoint. Initially, however, digital ink will be stored as a separate file attachment rather than embedded natively in the document file. The company has signed up 16 software partners, including SAP AG and Salt Lake City-based FranklinCovey Co., which will offer a tablet-enabled version of its day planner software.

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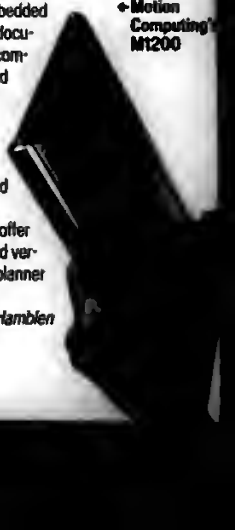

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Weil, Gotshal & Manges has tested Taipei, Taiwan-based Acer Inc.'s TravelMate 100, a notebook PC that a user can convert to a tablet device by swiveling and folding the display down over the keyboard [QuickLink 31724].

But McGinnis says he's more impressed with native tablet designs such as the 12-in. screen tablet by Motion Computing Inc., an Austin, Texas-based company whose founders include former Dell Computer Corp. executives.

Easy to Use

General Motors Corp. Chief Technology Officer Tony Scott has also tested the Acer machine and another unit from Hewlett-Packard Co. and has used digital ink within Microsoft Excel, Word and PowerPoint files. He says it's "very functional and usable," both for managers inside the firewall and for field service workers.

Scott says the handwriting conversion works well, but he would like to see brighter screens and an increase in battery life from the current three or four hours to at least six. He adds that he's also concerned about the storage requirements for digital ink image files, which need more space than corresponding ASCII text files.

Analysts are voicing other concerns about the product.

For example, Ken Dulaney at Gartner Inc. in Stamford, Conn., says that tablet devices will create added costs for corporations that must support the new digital ink images. That, he says, "will limit adoption to a selected few."

Dulaney predicts that only 3% of all notebooks purchased by the end of 2004 will be Tablet PC-enabled laptops. He adds that a broader commitment by vendors is necessary to spur adoption, pointing out that both Dell and IBM "now sit on the sidelines." ▶

GETTING IT RIGHT

Early tablet designs may require several iterations before gaining acceptance from corporations:

QuickLink 32767
www.computerworld.com

■ Q&A

GM Takes On Two Tablets

GM CTO Tony Scott comments on the automaker's early tests of Tablet PCs.

Where are you using tablet devices? GM already has thousands of ruggedized tablet units in place in factories, some on wireless networks, but all proprietary platforms from a variety of manufacturers.

What Tablet PCs have you tried? I've had a few hours with the Acer machine and the HP machine. I like the storage of [digital] ink and the use of that within Excel, Word and other places. It's not perfect, but it's far superior to anything else and very functional, usable.

The handwriting recognition works. I'm left-handed, and previous attempts with recognition haven't always worked out.

Where might GM use Tablet PCs? Midlevel and high-level managers. . . . In the WAN, you can start to see some good field service [applications] and apps where you don't have to build special devices.

– *Matt Hamblen*

■ PRODUCTS

Vendors Ready Slate of Offerings

Early Tablet PC designs are likely to sell in the $2,000 range and will use processors from Intel Corp., Transmeta Corp. and VIA Technologies Inc., analysts say.

Initial machines fall into two categories: convertible laptops that support both keyboard and pen input, and native Tablet PCs that don't include a keyboard. Users can use a docking station with a native Tablet PC, though, and hook up an external keyboard and monitor. All that extra desktop hardware adds to the overall system cost, however.

EARLY ENTRIES INCLUDE:

Acer's TravelMate 100, the first convertible design, includes a 10.4-in. screen and a 700-MHz Pentium III processor. It supports 802.11b wireless LAN connections, weighs 3.2 lb. and has a screen lid that can either open to reveal a traditional laptop keyboard or swivel and fold over the keyboard to function as a tablet surface for pen input.

Motion Computing's M1200 is a native tablet design that can use a docking station. The unit has no keyboard, weighs less than 3 lb., has a 12.1-in. screen and will cost approximately $2,000, the vendor says.

Fujitsu PC Corp. in Santa Clara, Calif., and **Hewlett-Packard** are developing dockable and convertible models, respectively, but haven't publicly released details.

On the software side, Microsoft plans to offer the **Microsoft Office XP Pack for Tablet PC,** which will support digital ink within Excel, Word, and PowerPoint. Initially, however, digital ink will be stored as a separate file attachment rather than embedded natively in the document file. The company has signed up 16 software partners, including SAP AG and Salt Lake City-based FranklinCovey Co., which will offer a tablet-enabled version of its day planner software.

– *Matt Hamblen*

Motion Computing's M1200

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MPEG Standards

DEFINITION

The MPEG standards are an evolving group of compression and decompression standards defined by the Moving Picture Experts Group for digitizing and delivering audio, video and multimedia over computer systems and networks, including the Web.

BY SAMI LAIS

IF YOU VIEW video on your computer or listen to music you downloaded from the Internet, you probably use MPEG technology.

In contrast to data files, audio and video files tend to be very large and intolerant of any delay or latency in delivery. Each packet must be received, decompressed and delivered to the user in precisely the order it was sent and at just the right time. Any dropped packets or mistimed delivery can turn the message into gibberish.

MPEG algorithms compress the data to form small bits that can be easily transmitted and then decompressed accurately and quickly to allow high-fidelity reconstruction. MPEG standards aim for a compression ratio of about 52:1, requiring the reduction of, for example, 7.7MB to less than 150KB.

In the early days of MPEG, having enough power to perform these compressions and decompressions was a problem. A PC needs sufficient processor speed (about 400 MHz), internal memory and hard-disk space. At 30 frames per second (fps), digital video requires 235MB of disk space per minute of play.

Previously, PCs needed pricey hardware coprocessors, or coder/decoders (codecs) to handle the heavy processing load of MPEG files. Today's desktop machines use software-only codecs, such as free products RealPlayer from Seattle-based RealNetworks Inc., Windows Media Player from Microsoft Corp. and QuickTime from Apple Computer Inc. to play the files.

In 1988, the Moving Picture Experts Group Licensing Administrator (MPEG LA), which is made up of nine companies and a university, developed MPEG-1 and submitted the standard to the U.S. government. In 1991, the group received a patent along with permission to license the standard.

QUICK STUDY

Designed for coding progressive video and developed primarily for computer games, MPEG-1 delivered near-VHS-quality video at a data rate of 150KB/sec. MPEG-1's video standard was based on the standard image format of 352 by 240 pixels at 20 fps.

MP3 (MPEG-1 Audio Layer 3) codecs can produce CD-quality audio at compression factors of up to 12:1. But typical MP3s have a 25:1 compression ratio and lose a substantial amount of data, says Louis Latham, an analyst at Gartner Inc. in Stamford, Conn.

But even at the lower compression rate, a five-minute audio file that would normally take 50MB of space on your hard drive typically uses only 5MB of space for the same quality sound.

MPEG-2, developed in 1994 for coding interlaced images, was conceived as a broadcast standard: 720 by 480 pixels at 60 fps at data rates up to 2MB/sec.

For interlaced images, like those on a conventional TV, half of the screen — every other field — is drawn at a rate of 60 times per second. The other half of the fields are drawn in the next second. The two sets alternate continuously, producing an even data stream and images that the human eye perceives as smooth motion.

In computer displays, which are noninterlaced, jagged edges appear where one image meets another. To produce smooth video on a computer, both sets of interlaced fields are captured, and an MPEG-2 codec smooths the edges where the two meet. The crisper look of digital TV and DVD are the result of an MPEG-2 codec.

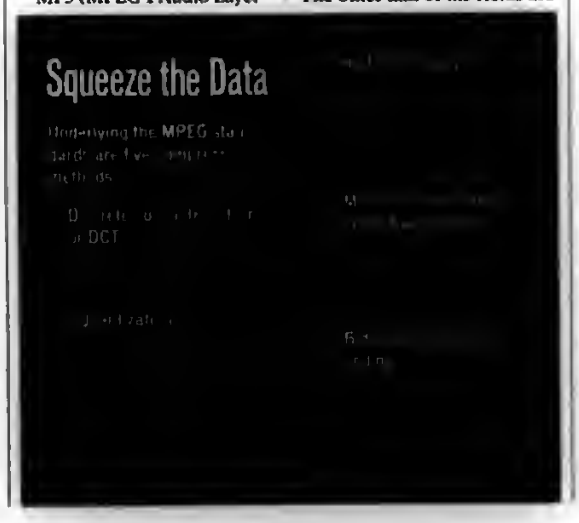
Approved in 1998 and 1999, respectively, MPEG-4 and MP4 are intended for very narrow bandwidths, speech and video synthesis, fractal geometry, computer visualization and artificial intelligence to accurately reconstruct images from minimal data. MPEG-4 and MP4 offer more lossless video and audio compression that let you store movies in about 15% of the space required by standard DVDs.

The ease with which a 90-minute movie can be copied onto a CD using MPEG-4 prompted moviemakers, fearing a Napster-like furor, to petition Congress for copyright protection — now standard — on DVDs to prevent such copying.

But it's the standard's scalability that's of greater importance, Latham says. The MPEG-4 codec allows video to be broken into bits so small and to be transmitted so quickly that video can run over 9,600 bit/sec. mobile networks.

MPEG-7 is a standard for describing multimedia content data.

Built on previous MPEG standards, MPEG-21 is a multimedia framework designed for creating and delivering multimedia. Work on the standard began in June 2000. Key elements are digital item declaration; identification; content handling; use and representation; intellectual property management and protection; terminals and networks; and event reporting.



Lais is a Computerworld contributing writer in Takoma Park, Md.

Setting the Standards

The MPEG standards for video and audio compression and for multimedia delivery designed by the Moving Picture Experts Group:

MPEG-1 Designed for coding video at a transmission rate of about 1.5 million bit/sec. Specifically designed for video-CD and CD-i media.

MPEG-1 Audio Layer-3 Uses perceptual audio coding and psychoacoustic compression to remove superfluous information. Shrinks the original sound data from a CD by a factor of 12 without sacrificing sound quality.

MPEG-2 Designed for coding interlaced images at transmission rates above 4 million bit/sec.

MPEG- 4 Designed to provide a standard way for authors to create and define the media objects in a multimedia presentation, how the objects can be synchronized and related to one another in transmission, and how users will be able to interact with the media objects.

MPEG-7 Defines an interoperable framework for content descriptions. MPEG-7 has descriptive elements that range from very low-level signal features, like colors, shapes and sound characteristics, to high-level structural information about content collections.

MPEG-21 Still under consideration, this standard is designed to provide a larger architectural framework for the creation and delivery of multimedia and for the protection of intellectual property rights.

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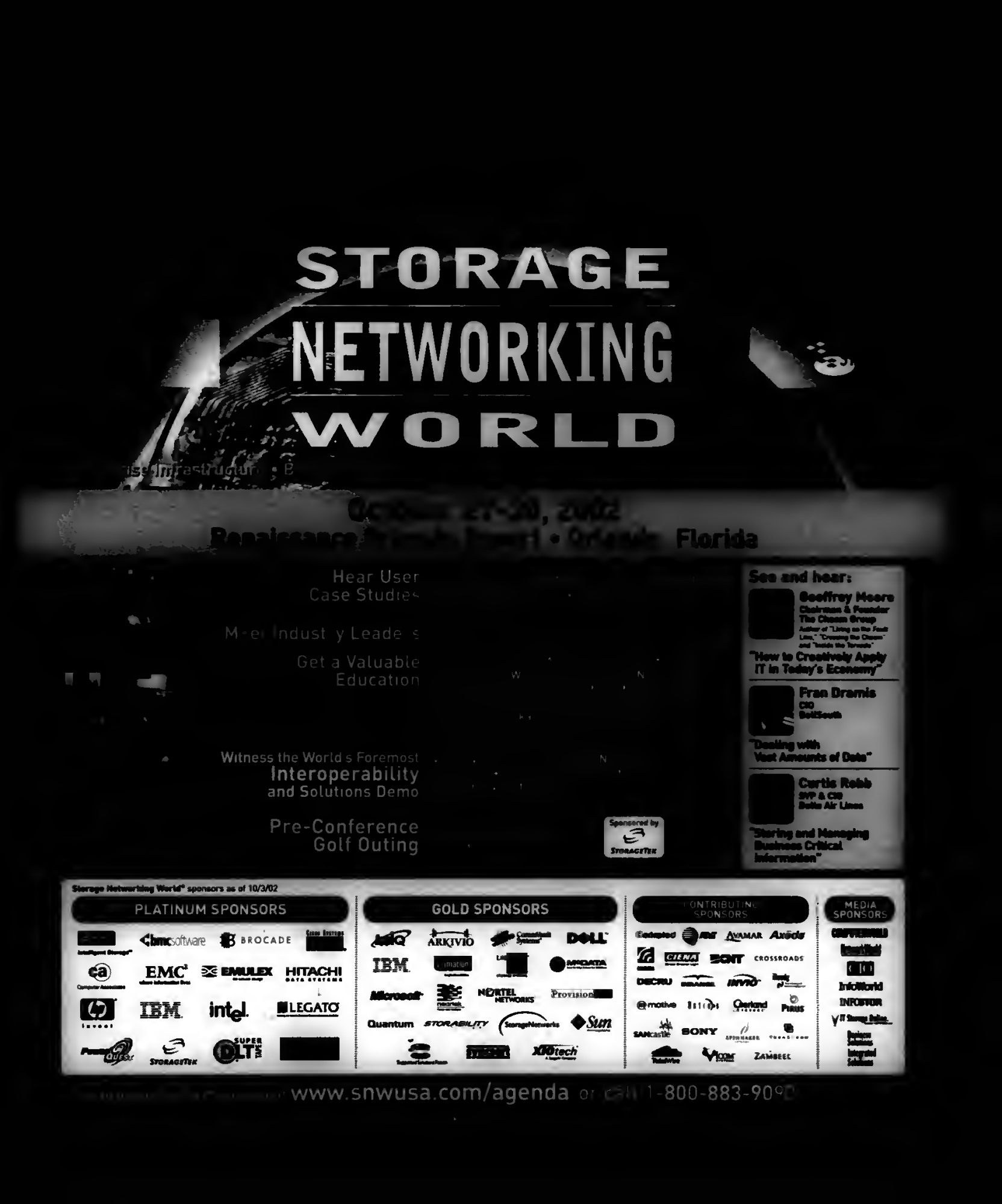
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WLAN Wars III: Attack of the Rogues

A ban on wireless LAN access points fails to get employees to remove unauthorized APs. In fact, they're adding new ones.

By Mathias Thurman

THIS IS THE THIRD time I've addressed wireless LAN (WLAN) security issues in this column, but the problem is only getting worse. I thought a company-wide e-mail spelling out a prohibition of the use of wireless access point (AP) hubs would be enough to persuade employees to remove unauthorized APs from the network. It wasn't.

SECURITY MANAGER'S JOURNAL

Last week, I conducted another survey at our corporate headquarters and discovered six *new* APs in addition to the units I had previously detected. Not surprisingly, all of them were improperly configured. They had no encryption and were set to broadcast the Service Set Identifier (SSID). Since it's easy to discover the SSID and there's no encryption enabled, it's not difficult for a hacker to gain access to our LAN through these rogue APs.

Tracking down the APs has been difficult. The signal strength for all but one was high enough to reach the street in front of our headquarters. I've been using the AirMagnet Handheld PC card and detection software from Mountain View, Calif.-based AirMagnet Inc. on my Pocket PC to detect the rogues, but I don't have a directional antenna that would let me zero in on the exact location of these hidden, illegal devices.

My alternative course of action was more time-consuming, but only somewhat effective. All the APs I discovered had an associated, unique media access control (MAC) address on our LAN. Our company uses Catalyst Ethernet switches from Cisco Systems Inc., and by querying these, it's possible to determine the switch port each access point is connected to. In theory, once I discovered the switch port, the Ethernet cable connected to that port could be traced back through a series of patch panels to the office or cubicle where the AP resides.

As a practical matter, this didn't work too well. First, the process was time-consuming. There are four switches per floor, and each of our six buildings has four floors. Because we don't have a monitoring tool like CiscoWorks, we had to log into each switch and conduct a search for each MAC address.

After some work, we were able to trace all but a few MAC addresses into the wiring closet on a specific building and floor. But once we traced a cable into a wiring closet, we had to rely on floor maps to determine which offices connected to which ports on the patch panel. It's virtually impossible to trace a cable from a wiring closet to an office, since the cables run inside the walls and floors. To do this successfully, we'd need accurate, up-to-date wiring maps. They weren't accurate, of course, and we were unable to trace any of the wires from the patch panel to the specific offices where the unwanted APs resided.

> It's clear that we can't trust users to police themselves. We need a way to automatically detect rogue APs.

A Legal Matter

Still, we were closing in. The maps did give us a general idea of the section of a given floor where the APs might be found. Now it's a legal matter. Do we have the authority to do an office-by-office search, entering each employee's workspace in our search for unauthorized access points? The labor and privacy laws for the state I work in tend to favor the employee. Therefore, before I start down the path of conducting searches, I must be sure I don't violate any privacy laws. I'm not a lawyer and I sure don't want to be the cause of any legal problems, so I've placed a call to our general counsel's office.

In the meantime, all we can do is disable the switch ports to which the rogue APs are attached. A smart user might just plug the AP into another office jack and be up and running again. But there are only two active ports in most offices, so sooner or later both ports will be disabled and the employees will have to identify themselves to get back on the network.

It's clear that we can't trust users to police themselves, and we don't want to go through that laborious trace process every time. Therefore, we will either have to purchase a software tool such as CiscoWorks or come up with a more efficient method for automatically detecting these unauthorized APs as users attach them to the network.

There are only two ways to do this. The first is the wired method I've described, in which you monitor network traffic. If you know what to look for, you can detect the 802.11b WLAN traffic packets or identify the MAC address of a wireless access point. The other method is to use our existing APs as sniffers in conjunction with software that detects the radio frequencies of illegally attached devices.

I think the latter method is the better approach. Finding rogue APs by detecting wireless signals is more efficient simply because there's less traffic to monitor on the wireless segment than there is on the wired LAN. In the latter case, the entire volume of traffic must be monitored and filtered in order to sift out wireless traffic for further analysis.

To use the wireless method, however, we will need to make a significant investment in hardware and software. Our AP layout covers only a limited area; to provide security, we need enough devices to cover the entire campus. If we can get them, we can buy software such as the AirWave Management Platform from San Mateo, Calif.-based AirWave Wireless Inc. that will let us use our WLAN infrastructure both to support legitimate wireless LAN traffic and sniff out unauthorized APs.

Despite the continuing problems I've had controlling rogue APs, I do think there's a light at the end of the tunnel. But I can't believe that I'm the only one experiencing these frustrations. If you've had similar experiences, drop me a line or share your recommendations in the Security Manager's Journal Forum. ▶

WHAT DO YOU THINK?

This week's journal is written by a real security manager, "Mathias Thurman," whose name and employer have been disguised for obvious reasons. Contact him at mathias_thurman@yahoo.com, or join the discussion in our forum:

QuickLink: a1590

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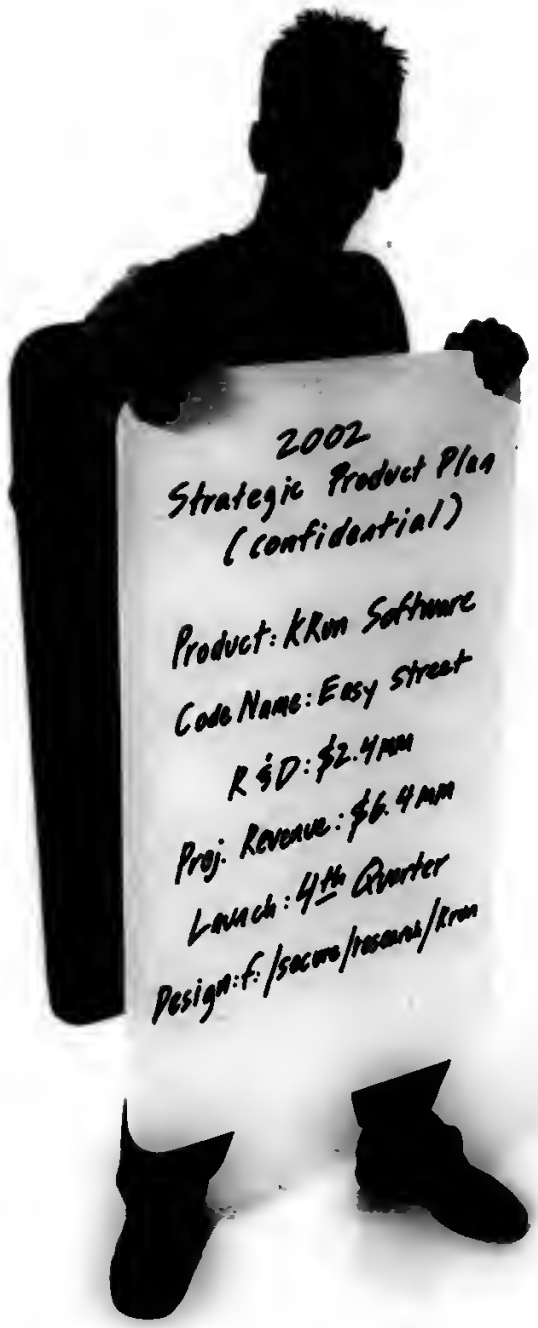

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BRIEFS

Itronix Launches Two Products

Itronix Corp., a Spokane, Wash.-based supplier of wireless, rugged computing hardware and software, rolled out two products late last month:

- iCare Mobility is Internet Protocol networking software that enables persistent, secure IP connections between mobile applications and their servers on corporate networks, intranets or the Internet, according to Itronix.
- The GoBook Q-100 (left) is an ultrarugged wireless handheld computer. It runs both Windows CE and Pocket PC 2000. It has an IP 67 sealing rating, making it virtually immune to invasive water or dust. It is Mil Spec 810E-rated to withstand multiple drops onto concrete from 2 meters. The GoBook Q-100 weighs 28 oz., including batteries. It's priced at $2,295.

Gordano Adds SMS To Messaging Suite

Gordano Ltd. in Clevendon, England, has integrated a Short Messaging Service (SMS) into the latest version of its Gordano Messaging Suite application. The new feature is integrated with Gordano's existing secure Web mail application, which also includes shared calendars and antispam, antivirus and database-driven mass mailing capabilities. Pricing, including optional modules, starts at about $5,000 for 50 users.

Cognos Announces Metrics Manager

Burlington, Mass.-based business intelligence software vendor Cognos Inc. this week will announce Metrics Manager, which Cognos claims will allow users to create, monitor and report on performance indicators throughout an organization.

ROBERT L. SCHEIER

Trustworthy Numbers Needed

SIEBEL SYSTEMS IS predictably outraged by a survey of 23 of its reference customers that showed that 61% of those customers had yet to achieve a return on investment after two years with Siebel's CRM software.

Siebel pointed out, quite accurately, that asking only 23 of its 3,500 customers isn't statistically valid. But that isn't the point. These were reference customers handpicked by Siebel as outstanding examples of the business value of its applications. And they were asked specifically about their ROI on Siebel, which costs an average of about $6.6 million over a three-year period.

ROI is probably the most important — if not the only important — criterion for IT spending in an era when corporate profits are so far in the tank. Today, the managers who sign off on tech spending need faster, more provable ROI more than they need promises of future revenue gains, increased customer satisfaction or market share gains. Investors considering a stock need profit and loss numbers they can trust, just as CIOs investing in CRM or ERP applications need ROI numbers they can trust.

While the IT industry hasn't produced a fraud on the scale of Enron and WorldCom, we have delivered plenty of IT systems that were late, over budget or so hard to understand that they drove users to distraction. The bursting of the dot-com bubble, as well as the lack of any noticeable problems from the Y2k bug, make business managers justifiably skeptical of claims from IT vendors.

It's a new world of depressed spending, high expectations and demanding scrutiny. If IT vendors (and IT managers) believe their ROI claims, it's time to back them up. Here are some places to start:

1. More comprehensive cost accounting. What a company spends for hardware, software and consulting is often only the tip of the cost iceberg. Training costs rise (and productivity falls) if an application turns out to be harder to use than expected. In the Siebel survey, 78% of the reference customers said Siebel suffered from a lack of user-friendliness. Another problem area for just about anyone installing a new application is the full cost of integrating it with older systems. Companies implementing large, enterprisewide applications often incur a lot of hidden costs in the foggy area of business process re-engineering, which entails making changes in their sales, billing, manufacturing or other processes in order to get the most benefit from the software. If you can't track these costs over time, you have an Enron-style ROI calculation.

2. Better tracking of benefits. First, did you do a postmortem to see which of your expected benefits you actually achieved? Did you have an agreed-upon list of benefits beforehand, such as "30% reduction in support costs as measured by number of help desk calls?" Do you require the sponsoring business manager to agree to a specific action if they achieve certain benefits — for example, if a new application increases productivity by 10%, the manager commits to laying off or reassigning 10% of his staff to new tasks? These are tough steps, but just as in the stock market, investors deserve solid numbers.

3. Standards for calculating ROI. It would probably be too hard, and maybe counterproductive, to try for an IT equivalent of the generally accepted accounting principles used in the accounting industry. We all saw how accountants worked around established accounting rules, and the last thing we need is endless negotiations and committee work over whose ROI methods are the best.

However, some companies are already developing the templates, processes and tools needed to accurately identify costs and benefits across a range of IT projects. Why can't at least some of these processes and tools be shared across companies in the same industry, or at least be used in the same company over time? That would give IT vendors (as well as IT managers) firmer evidence that a new technology provides more bang for the buck than the one it replaces.

Unless you see a huge economic recovery coming that I don't see, the demand for tighter, more provable ROI is only beginning. Deliver those credible ROI calculations and you'll help your product, your company and your career survive the downturn. ▶

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- The GoBook Q-100 (left) is an ultrarugged wireless handheld computer. It runs both Windows CE and Pocket PC 2000. It has an IP 67 sealing rating, making it virtually immune to invasive water or dust. It is Mil Spec 810E-rated to withstand multiple drops onto concrete from 2 meters. The GoBook Q-100 weighs 28 oz., including batteries. It's priced at $2,295.

Gordano Adds SMS To Messaging Suite

Gordano Ltd. in Clevedon, England, has integrated a Short Messaging Service (SMS) into the latest version of its Gordano Messaging Suite application. The new feature is integrated with Gordano's existing secure Web mail application, which also includes shared calendars and antispam, antivirus and database-driven mass mailing capabilities. Pricing, including optional modules, starts at about $5,000 for 50 users.

Cognos Announces Metrics Manager

Burlington, Mass.-based business intelligence software vendor Cognos Inc. this week will announce Metrics Manager, which Cognos claims will allow users to create, monitor and report on performance indicators throughout an organization.

ROBERT L. SCHEIER

Trustworthy Numbers Needed

SIEBEL SYSTEMS IS predictably outraged by a survey of 23 of its reference customers that showed that 61% of those customers had yet to achieve a return on investment after two years with Siebel's CRM software.

Siebel pointed out, quite accurately, that asking only 23 of its 3,500 customers isn't statistically valid. But that isn't the point. These were reference customers handpicked by Siebel as outstanding examples of the business value of its applications. And they were asked specifically about their ROI on Siebel, which costs an average of about $6.6 million over a three-year period.

ROI is probably the most important — if not the only important — criterion for IT spending in an era when corporate profits are so far in the tank. Today, the managers who sign off on tech spending need faster, more provable ROI more than they need promises of future revenue gains, increased customer satisfaction or market share gains. Investors considering a stock need profit and loss numbers they can trust, just as CIOs investing in CRM or ERP applications need ROI numbers they can trust.

While the IT industry hasn't produced a fraud on the scale of Enron and WorldCom, we have delivered plenty of IT systems that were late, over budget or so hard to understand that they drove users to distraction. The bursting of the dot-com bubble, as well as the lack of any noticeable problems from the Y2k bug, make business managers justifiably skeptical of claims from IT vendors.

It's a new world of depressed spending, high expectations and demanding scrutiny. If IT vendors (and IT managers) believe their ROI claims, it's time to back them up. Here are some places to start:

1. More comprehensive cost accounting. What a company spends for hardware, software and consulting is often only the tip of the cost iceberg. Training costs rise (and productivity falls) if an application turns out to be harder to use than expected. In the Siebel survey, 78% of the reference customers said Siebel suffered from a lack of user-friendliness. Another problem area for just about anyone installing a new application is the full cost of integrating it with older systems. Companies implementing large, enterprisewide applications often incur a lot of hidden costs in the foggy area of business process re-engineering, which entails making changes in their sales, billing, manufacturing or other processes in order to get the most benefit from the software. If you can't track these costs over time, you have an Enron-style ROI calculation.

2. Better tracking of benefits. First, did you do a postmortem to see which of your expected benefits you actually achieved? Did you have an agreed-upon list of benefits beforehand, such as "30% reduction in support costs as measured by number of help desk calls?" Do you require the sponsoring business manager to agree to a specific action if they achieve certain benefits — for example, if a new application increases productivity by 10%, the manager commits to laying off or reassigning 10% of his staff to new tasks? These are tough steps, but just as in the stock market, investors deserve solid numbers.

3. Standards for calculating ROI. It would probably be too hard, and maybe counterproductive, to try for an IT equivalent of the generally accepted accounting principles used in the accounting industry. We all saw how accountants worked around established accounting rules, and the last thing we need is endless negotiations and committee work over whose ROI methods are the best.

However, some companies are already developing the templates, processes and tools needed to accurately identify costs and benefits across a range of IT projects. Why can't at least some of these processes and tools be shared across companies in the same industry, or at least be used in the same company over time? That would give IT vendors (as well as IT managers) firmer evidence that a new technology provides more bang for the buck than the one it replaces.

Unless you see a huge economic recovery coming that I don't see, the demand for tighter, more provable ROI is only beginning. Deliver those credible ROI calculations and you'll help your product, your company and your career survive the downturn. ▶

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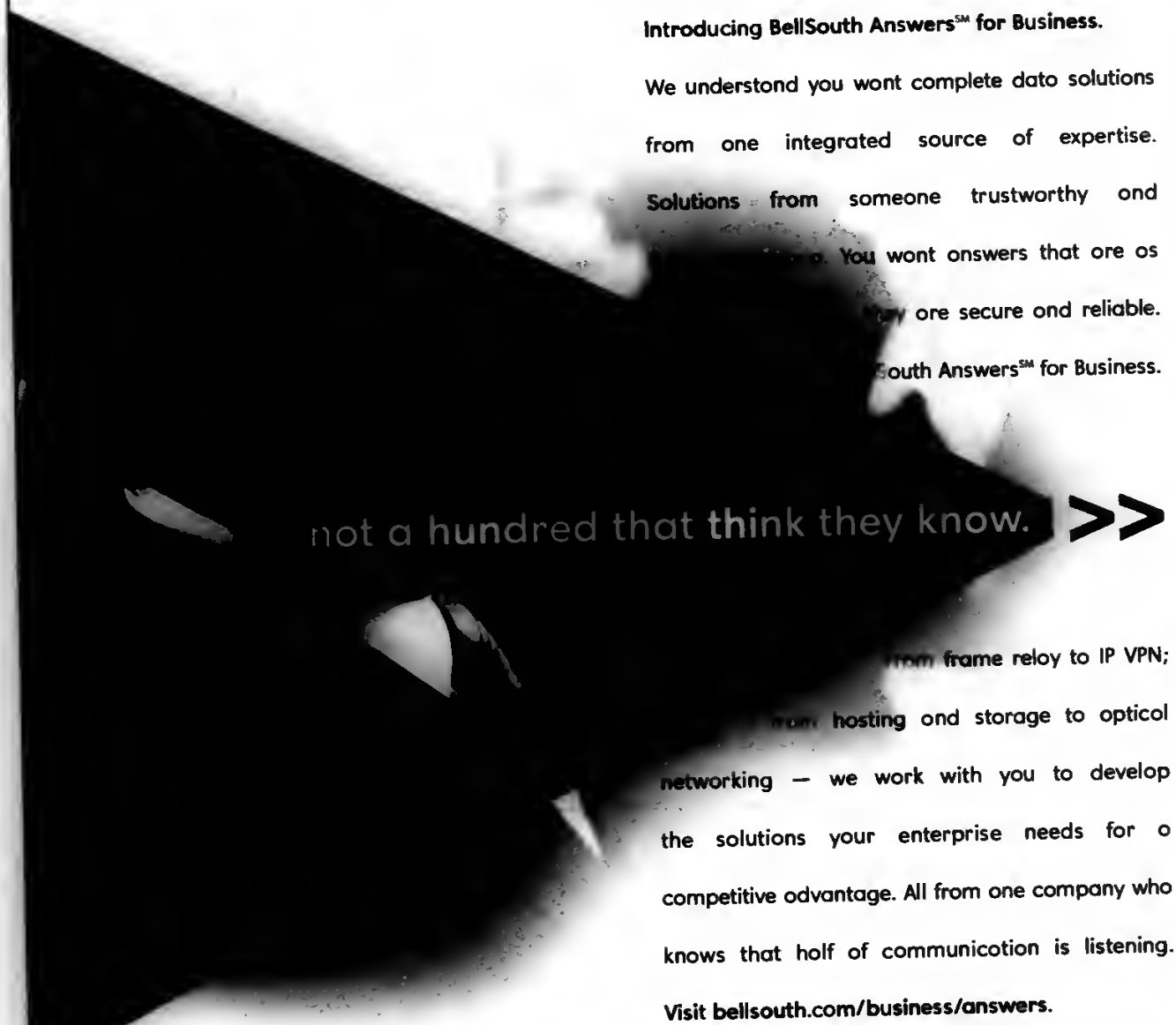
I want one company that knows what it's doing,



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Isn't it ironic that getting your business wired no longer requires wire?

MANAGEMENT

By the Book
Steering clear of IT accounting debacles means knowing when and how to write off failed projects. The first step is to continually scrutinize project portfolios with an eye toward weeding out anything more than six months old. **Page 45**

EVA as Fact, Not Fiction
Juicing the numbers isn't an option for managers using an economic value-added approach to IT financial management, writes columnist John Berry. The reason: EVA's built-in compensation regime, which makes bonus pay dependent on EVA outcomes. **Page 51**

QUOTE OF THE WEEK

"I view every case of waste, fraud and abuse as just another example of the problem whose root cause is the failure to maintain and manage records effectively."

– Owen Arthur, a systems analyst at the Fish and Wildlife Service and co-chairman of the federal XML Working Group

The feds are tapping XML for interoperability, public access and record-keeping. BY GARY H. ANTHES

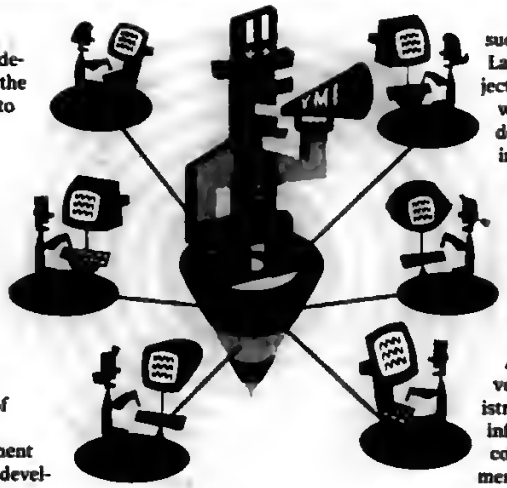
XML Goes to Washington

LIKE PRIVATE INDUSTRY, the federal government is beginning to broadly embrace XML, the open standard for exchanging information among disparate computer systems. Government IT managers say the deployment of XML will facilitate interoperability among federal systems and between the government and corporations. They say it will also ultimately simplify government record-keeping and reduce the waste, fraud and abuse that results from poor records management practices.

But meeting such goals isn't without challenges, including a proliferation of nonstandard data definitions and structures, a lack of a cohesive federal strategy for XML adoption and concerns about security. The private sector faces similar challenges in its deployment of XML, so how the government proceeds could provide some guidelines for the corporate world. Nevertheless, a number of initiatives aimed at bringing the government the benefits of XML are under way in Washington:

■ In June 2000 the Federal CIO Council formed the XML Working Group. Its goals are to partner with standards bodies that are developing XML and to facilitate the government's broad transition to XML for data interchange. The group has established contact with citizens and IT professionals through regular public meetings and a Web site at *http://xml.gov*. In April this year, it published a draft guideline for the development of XML-based government systems.

■ The XML Working Group is sponsoring the development of a governmentwide registry of government-unique XML data structures, schemas and Document Type Definitions that software developers can use when building XML applications. Ultimately, the registry will point to repositories of standard, reusable components that will be available for use by both government and industry developers. These components will make it easier for companies to do business with the government electronically and to interface corporate and government systems.



■ The Gaithersburg, Md.-based National Institute of Standards and Technology (NIST), working with other standards bodies and IT vendors, has developed a suite of tests by which vendors and users in government and industry can determine whether a piece of software conforms with XML specifications and with related standards, such as the Extensible Stylesheet Language and the Document Object Model. NIST is also working with vertical industry groups to develop conformance tests for industry-specific standards.

■ Meanwhile, a number of federal agencies are bringing up XML-enabled applications. The U.S. Patent and Trademark Office has promised faster action on patent applications that bear XML tags. The Environmental Protection Agency, working with NIST, developed an XML metadata registry for use internally and for information exchanged between corporations and state environmental protection agencies. The Securities and Exchange Commission has begun requiring financial filings to be formatted with XML-encoded headers, which it says is saving the government and filers the cost of developing custom software interfaces. These efforts are in response to a mandate from the White House to make government systems more interoperable and accessible to the public.

As promising as these initiatives may be, they still worry the U.S. General Accounting Office (GAO). In April, the GAO pointed out in a report to Congress that although XML offers many benefits, the language and the related standards are dangerously immature. The GAO warned, "System developers must be wary of several pitfalls — the risk that redundant data definitions, vocabularies and structures will proliferate, the potential for proprietary extensions that would defeat XML's goal of broad interoperability and the need to maintain adequate security."

In addition to these dangers, which the private sector faces as well, the GAO pointed out some specific government shortcomings. It said there is no explicit, top-down strategy to guide XML implementations in government and that the needs of more than 300 federal agencies haven't been consolidated for presentation to standards

MICHAEL BARTALOS

The Pros and Cons of XML

STRENGTHS	PITFALLS
■ XML's flexible, human-readable data tags and structures can be easily adapted to many different needs.	Defining unique data tags and structures can potentially lead to compatibility problems with other systems and defeat the goal of broad-based data exchange.
■ XML standards are freely available and nonproprietary.	It's easy for vendors and others to build nonstandard extensions to their products and systems, which could also inhibit broad-based data exchange.
■ Information in XML documents can potentially be accessed and shared among disparate systems.	Increasing access to information that's tagged in human-readable form increases security concerns.
■ It's easy to search tagged XML data for specific information.	Data that isn't highly structured, such as narrative text, may be difficult to convert to XML. Further, converting non-tagged information to XML may require a significant effort without prior agreements and established data dictionaries.

bodies. It also said the government had not yet established a registry of government-unique XML data structures, the kind of directory the XML Working Group is now helping to build.

Agency IT managers for the most part agreed with the GAO's findings but balked at the suggestion that they move slowly on XML applications until standards solidify. In a letter to the GAO, NASA CIO Lee Holcomb wrote, "Government [agencies] have begun using XML based on a trade-off of the benefits of its use in an incomplete business-standards environment vs. the risk that their implementations will have to be redone to conform to business standards that are eventually finalized by the private sector. . . . Given the current status of XML standards, this seems to be a rational approach."

Marion Royal, co-chairman of the XML Working Group and an agency expert at the General Services Administration, says he's working with industry groups for banking, insurance, automotive and the like to avoid "reinventing the wheel." For example, he says, the Department of Energy may be able to use XML data structures, schemas and terminology developed by the oil industry. Royal says the government-wide XML registry will give the private sector "a single schema to use to do business with all government agencies, regardless of whether it's business reporting, actual sales transactions or information discovery." That will result in standard data structures and definitions and possibly reusable software components, which are lacking today.

The XML group is also working with the Organization for the Advancement of Structured Information Standards on e-Business XML (ebXML) technical specifications. EbXML allows trading partners to discover one another and conduct business over the Internet. "EbXML holds a lot of promise," Royal says. "The problem with it is it's taking so long, because it's a challenge to create something that does all this stuff."

Security Issues

Security concerns have slowed the use of XML in government, says Uttam Narsu, an analyst at Cambridge, Mass.-based Giga Information Group Inc. "There have been grave concerns that if you make information more accessible, you make it more manipulable," he says. "If you have data tied up in proprietary format, it's harder for a hacker to get at than if it's nicely open XML."

The GAO warned, "When XML is used, the direct transfer of data may bypass security checks, such as those built into intermediate data processing software such as virus checkers."

Royal says vertical industry groups are addressing industry-specific needs for their XML-based standards but that not enough is being done to address "horizontal" functions, such as user authentication. He blames this in part on IT vendors that fear losing a competitive advantage based on their proprietary approaches to security.

The government is rolling out simple XML applications for the exchange of documents, and early reports are that it's helping "repurpose" data for analysis and will over time make information more accessible. But the government may soon start to deploy XML-enabled Web services that invoke functions such as search engines on systems belonging to other organizations, Royal says. "Other things are coming out, like [Universal Description, Discovery and Integration], [Simple Object Access Protocol] and [Web Services Description Language], so we are supporting ebXML, but we are keeping our eyes on other emerging standards," he says.

The government should pursue the use of powerful Web services more aggressively, says Robert Wegener, national director of solutions at RCG Information Technology Inc., a consulting and systems development company in Edison, N.J. "For example, suppose you are checking someone at the border, and you have to go to all these different databases and bring things back to your PC," he says. "So all the agencies and the local police expose their search routines as a Web service. I can put somebody's name or identification oumber in, send it over in a Web service, and I can use their CPU time."

"We see Web services as a great loose-coupling technology for the government," says John Vrankovich, a senior director at Manugistics Group Inc. in Rockville, Md. "You can open up your application to external tools, inherently because of the XML. And government probably does more integration of systems than anybody." ◗

Permanent Records

"I view every case of waste, fraud and abuse as just another example of the problem whose root cause is the failure to maintain and manage records effectively," says Owen Ambur, co-chairman of the federal XML Working Group and a systems analyst at the Fish and Wildlife Service.

XML and related standards and software reuse concepts could make a huge contribution to reducing waste, fraud and abuse in both the public and private sectors, he says. The reason: It would enable the automation of financial records audits.

Ambur says IT managers often confuse financial information in databases with financial records. "Databases are fundamentally not record-keeping systems, because they are subject to manipulation," he says. "The beauty of XML is all original records are in their original format."

The recent corporate accounting scandals have underscored the need for sound record-keeping and have prompted the government to pay more attention to records, both its own and those filed from external sources. In August, Federal Communications Commission Chairman Michael K. Powell said he was backing away from an earlier plan to reduce the amount of financial data communications companies must file with the FCC.

Meanwhile, the National Archives and Records Administration (NARA) in College Park, Md., wants to improve both the longevity and accessibility of government records. It's conducting research and building prototypes for an electronic records archive that would use XML tags and descriptors to "wrap" proprietary formats such as Microsoft Word, Excel and PowerPoint.

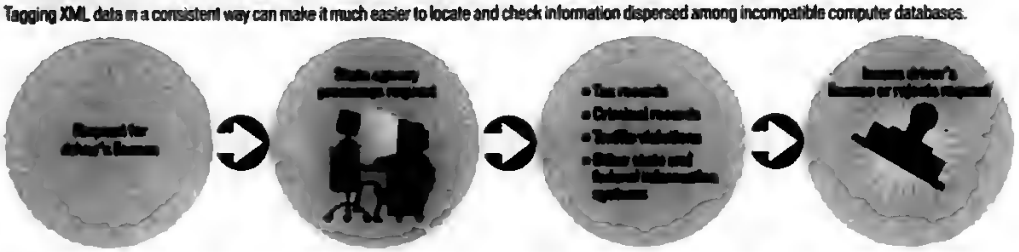
The idea is called *persistent object preservation*, and the objective is to be able to read a Word document, for example, years after Word ceases to be a product. "We believe that [XML] markup is one significant way of attacking the technological obsolescence problem," says Mark Giguere, a computer specialist at the NARA.

"A goal is to make it easier for agencies to follow their records management responsibilities," says Nancy Allard, a senior policy specialist at the NARA. "Good record-keeping is one of the essentials to providing government accountability."

– *Gary H. Anthes*

A Hypothetical XML-Based State Driver's License System

Tagging XML data in a consistent way can make it much easier to locate and check information dispersed among incompatible computer databases.


Request for driver's license
State agency processes request
• Tax records
• Criminal records
• Traffic violations
• Other state and federal information systems
Issues driver's license or rejects request

SOURCE: GAO

By the Book

Steering clear of IT accounting debacles means knowing when and how to write off failed projects. By Thomas Hoffman

ACCOUNTING TRICKS by Enron, WorldCom and Global Crossing have made headlines, but most companies keep their books fairly clean when it comes to handling their IT costs, say industry experts.

Besides the legal and moral choices involved, it's "awfully hard to bury" a failed IT project worth tens of millions of dollars, says Stephen J. Andriole, a professor of business technology at Villanova University in Villanova, Pa., and CEO of TechVestCo Inc., a Bryn Mawr, Pa.-based consultancy that helps companies optimize their IT investments.

Nevertheless, there are widely applied accounting methods and techniques that companies can use — and abuse — to account for or hide failed IT projects in their earnings statements or take advantage of loopholes on IT project costs. For instance, Andriole points to how some big companies will spin a failed IT project by lumping it under the infrastructure costs in its 10-K statement, an annual report of sales and pretax operating income that all public companies must file with the Securities and Exchange Commission. Another tactic is to refer to the failed effort as a pilot or research and development project, depending on its size.

Other companies take advantage of an accounting standard approved in 1998 by The American Institute of Certified Public Accountants (AICPA) called Statement of Position (SOP) 98-1. It allows companies to amortize and capitalize the costs associated with application development projects — including programmer salaries — over the life of a system.

Both practices are technically legal, yet some IT experts disagree with their use. "These kinds of things shouldn't be capitalized unless [the application] is going to exist reasonably unchanged over the course of its life," says Jeremy Grigg, an analyst at Gartner Inc. in New York. Grigg says he believes some companies might try to take advantage of the verbiage in SOP 98-1 and manipulate the standard to hide costs. This is one reason why he believes financial regulators need to review SOP 98-1 to determine whether amendments should be made to it.

Although SOP 98-1 is a legally recognized accounting method, "it's a bit misleading," says Grigg. "Where else can you capitalize salaries? It can lead to an accounting treatment that's anti-intuitive."

A spokesman for the AICPA in New York said the organization has "no plans to review or modify" the standard.

Still, at least one consultant, Ram Reddy at Cutter Consortium in Arlington, Mass., says that abuse of IT accounting rules at Fortune 500 companies is "quite extensive." Reddy, who is currently the CEO of Huntington Beach, Calif.-based Tactica Consulting Group LLC, says he has seen these abuses firsthand in previous positions as CIO at a Tier 1 auto supplier and chief technology officer at a Fortune 500 company.

Reddy points to frequently quoted figures from The Standish Group, a West Yarmouth, Mass.-based IT consultancy whose research concludes that 31.1% of all IT projects are canceled before they're completed. But talk to executives at big companies, "and no one will tell you where the failed IT projects are," he says.

Expense or Capitalize?

In general, IT investments fall into one of two accounting buckets. Smaller-ticket items such as printers are expensed and subtracted from the bottom line within a quarter or fiscal year. More expensive outlays, such as the replacement of several thousand PCs, are typically capitalized and depreciated over a three- to five-year period.

Ian Campbell, co-founder and principal analyst at Nucleus Research Inc. in Wellesley, Mass., says that although he hasn't seen many companies make sleight-of-hand capitalization moves such as burying failed IT projects under R&D costs, "I can tell you there's a lot of pressure [by some senior executives] to do that."

As might be expected, the handful of IT executives who were willing to be interviewed for this story said that they've never been influenced by top brass to take part in questionable accounting moves regarding their organization's IT purchases.

"We are a very conservative company, and because of that, there's nothing out of the ordinary," says Mehrdad Laghaeian, CIO at Danvers, Mass.-based Osram Sylvania Inc., a $4 billion lighting manufacturer.

Accounting procedures for IT costs "are pretty cut and dried here," says Steve McDowell, information systems director at a retirement home operator in the Pacific Northwest who asked that his company not be identified by name. If a piece of software or equipment costs $2,000 or less, "it gets expensed," says McDowell, who adds that his company hasn't had to write off any IT.

ROI

Keeping It Clean

1. **Don't throw good money after bad.** Review all IT projects more than six months old and decide whether they should be continued.
2. **Come clean with senior management, detailing the shortcomings of any failing projects.** Give such projects the correct accounting treatment on the income statement, such as capitalizing software expenses.
3. **Put all spending related to innovative thinking** and pilot projects into the expense category.

Who's in The House?

How to conduct an IT skills assessment. By Kathleen Melymuka

IF YOU'RE AN IT MANAGER, you need to know what skills your staffers possess. Without a proper skills assessment, how can you go about planning projects, changing strategy, outsourcing work, and training or downsizing staff?

"The IT field changes so rapidly that you need to know what skills you have compared to what you might need," says Betty Calhoun, director of special IT projects at DynCorp Systems and Solutions LLC, a federal contractor in Gaithersburg, Md.

Your human resources department may be able to help with the assessment, says Linda Pittenger, CEO of People3 Inc., a Bridgewater, N.J.-based IT human resources consulting unit of Gartner Inc. But the CIO should take the lead, because the IT workforce is ultimately his responsibility.

Before you start, know why you're doing it and focus your efforts to get the information you need. For example, if you're planning to build Web front ends on mainframe applications, be sure you use an assessment tool that covers all the bases around Web and mainframe skills.

Choose an Approach

There are three approaches you can take: You can hire a consulting firm to manage the skills assessment for you, purchase a software tool designed for the process or build one yourself. You can also track skills manually if your IT department is small enough, but if it's that small, you probably already know everyone's skills.

The CIO at a large Midwestern manufacturing company recently completed an assessment of 200 IT people using the services of a consulting firm. "We're looking at a very large .Net project and want to know who has what expertise so we can use that in our deployment schedule," says the CIO. She asked to remain anonymous because her employees are "kind of paranoid," fearing that the assessment may signal an impending layoff.

"This process is one that gets employees uncomfortable," says Gordon Lavalette, chief operating officer at People3, "so communicate before, during, after, early and often."

The CIO's workers had two weeks to complete online profiles of themselves, using a five-point grade on skills ranging from specific hardware and software expertise to project management experience. The information was automatically forwarded to their managers, who had a week to review it, clear up any discrepancies and sign off on it. If there were discrepancies, the managers and employees discussed them and worked them out. It was up to the managers to bring it all to closure.

Such skills ratings aren't tied to performance reviews or salary discussions, so there's really no need to embellish, experts say. If someone says he has a particular skill, he'll probably be called upon for an upcoming project.

Get buy-in from managers in advance, particularly for IT people who work in the business units, the CIO advises. And time the assessment carefully. "We did it right after midyear reviews, when we're focusing on project planning and training for the balance of the year," she explains. "We wouldn't have done it before reviews; people read too much into it."

The service cost about $30,000, including the ability to slice and dice the data in various ways, she says. But it will provide only a fleeting glimpse of her workforce. "If you don't own the software, all you get is a snapshot," she says. "You don't have the ability to update it. We'll decide in a year or two whether we want to own the tool or if a snapshot is good enough. But if you're going to own it, you'll at least double the cost."

Filling Gaps

Jim Hughes, CIO at National City Corp. in Cleveland, uses a customized tool called PlanView Web Software from PlanView Inc. in Austin, Texas, to keep up with changing skills in his project-intensive culture. At $600,000, the package provides a variety of human resources management and project management tools, including an up-to-the-minute skills assessment of his 1,200-member IT workforce.

"Project staff are being constantly reassigned, and each project will need different combinations of skills," Hughes says. "To meet project demands without interruption, we need to track the capabilities of our staff."

When a project is completed, the manager reviews each team member's performance, noting any new skills acquired and assessing the levels of existing competencies. These updates feed into the resource management database, which Hughes consults when mapping out projects for the coming year. He compares existing skills among his staff with projected needs and plans training to close the gaps.

If you use a tool with which IT workers rate themselves, save time by having each employee complete only the sections that relate to his current work and career goals, Calhoun advises. For example, a Cobol programmer who's learning Java could ignore categories like database administration and routers.

If you choose to build your own assessment tool, be forewarned: It's a big job and probably not cost-effective. Instead, "find a package that makes sense and tweak it, but don't sit down with a blank piece of paper," Calhoun says.

Regardless of your method, remember that each result is like a snapshot. If you want an up-to-date picture, experts say you'll need to repeat the process every 12 to 18 months or use a package that can be continually updated.

Ask the Experts

How do you minimize paranoia in your IT staff when you do an IT skills assessment?

■ One word: *communication*. You can design the best program in the world, but if you don't spend the time and energy for communication, it falls apart. Your success may also depend on how you've used data in the past. In organizations where compensation is a black box, you're never going to get your employees past the paranoia, because if you haven't shared other information with them, they won't believe you now.

GEORGINE YOUNG
Hewitt Associates LLC
The Woodlands, Texas

■ The key here is to begin discussing the need for a skills assessment in advance of the actual activity. Follow-up is also vital. Once the assessments are complete, the IT department must embark on a retraining process for those lacking skills, assign high-fliers and highly skilled staff to major projects, and implement a continuing education and training program for all staff.

KAZIM ISFAHANI
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Make Learning Mandatory

MONTH AFTER MONTH, attorneys, secretaries and executives at O'Hagan, Smith & Amundsen were calling the law firm's help desk with the same Windows, password and file-saving questions they had already asked — and received answers for — dozens of times. Information retention was nonexistent, and the law firm was growing at a rate of 200% per year. Yet Chuck Linebaugh, director of information systems, didn't have the budget to hire additional workers to handle the relentless ringing on the help desk.

Instead, he went to the firm's lead partner with a proposal: Offer customized IT training to all employees, and make certification mandatory for everyone, from the top partners along Mahogany Row to the lowest-paid clerical worker. To sell the idea, Linebaugh used a financial argument: Pay once to train all employees rather than pay the recurring costs associated with expanding the help desk as the company grew. "Essentially, we told him, 'Here's how you can lower IS costs,'" Linebaugh says.

STEAL THIS IDEA

Lead partner Glen Amundsen not only agreed to the idea, but he also offered to be the first to go through the training and take the certification exams that Linebaugh and his team subsequently developed.

To tailor the training to the firm's employees, Linebaugh and three other people from IT sifted through the previous year's records of help desk calls, identifying 90 things that every worker — regardless of his job — needed to know in order to use the firm's existing technology. These items were then categorized into four areas — Windows 2000, file management, Microsoft Word and Microsoft Outlook.

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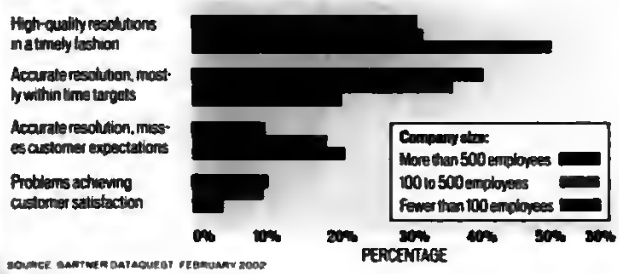

SOURCE: GARTNER DATAQUEST FEBRUARY 2002

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What do you think about the opinions of some analysts who say that market forces alone aren't enough to effect real change in national cybersecurity? I think that is selling the strategy short. The issue is that if you want to run a business in this interconnected world, you have to have security built in. It's not only part of the draft strategy for comment, but it's also good business sense. ▶

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"In your recent management article in the Sept. 2 *Computerworld*, you used the term 'quantifiable benefits.' That's the rub with EVA, some activities don't produce quantifiable benefits; they are just good business. An example would be hiring a security guard to protect a warehouse full of stuff. If you don't hire the guard, somebody will steal stuff from the warehouse, resulting in a loss, but I would challenge anyone without Stephen King's talent for writing fiction to actually put a number on the benefit of hiring the guard.

"The problem is really not so much that you can't put a number on it, but that you can put any number on it. . . . Simply put, the use of EVA encourages managers to make up numbers."

The writer's first observation is well considered. Not every investment requires a business case justification. Just as important as the security guard in the warehouse is a company's need for a solid network; IT managers shouldn't need to prove this.

The last sentence of this reader's polemic is the reason I am returning to EVA. In theory, the EVA approach to capital investment decision-making might motivate IT managers to exaggerate their preinvestment assessments. When a cost of capital charge is assessed against an IT project's estimated ROI, the total return is lowered; an ROI of 50% before EVA is 38% after the company's 12% cost of capital is charged. Thirty-eight percent might be a respectable return, but perhaps not respectable enough when an IT project is competing against others for scarce resources.

A structural feature of EVA, however, discourages a manager's inclination to juice the assessment numbers to win project approval. A cornerstone of EVA is a bonus compensation regime under which every penny of pay beyond a manager's base salary is at risk depending oo yearly EVA outcomes. If EVA is negative for the company in one year, no bonus. If EVA scales the baseline target, managers and employees receive bonuses. If EVA is significantly higher than the base, the company will pay several multiples of the bonus. Recipients of EVA bonuses will attest to the fact that nothing focuses the mind like pain — or money. In many, but not all, companies, EVA bonuses flow right down from managers to workers on the shop floor.

Companies such as The Manitowoc Co., Boise Cascade and Briggs & Stratton have undergone observable cultural change as EVA companies. IT managers there truly think differently in that they no longer regard company funds as other people's money. Their business units are charged the cost of capital as well as the capital required for the project, and their personal compensation is on the line because of it. They tend to think more like owners than employees.

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Make Learning Mandatory

WHO: Chuck Linebaugh, director of information systems, O'Hagan, Smith & Amundsen LLC, Chicago

PROBLEM: Relentless calls to the help desk from users who would repeatedly ask the same how-to questions about hardware and software they needed to use in the course of their work every day.

SOLUTION: Design and deliver customized training to all employees, who must subsequently pass a series of certification tests to fulfill their basic job requirements.

MONTH AFTER MONTH, attorneys, secretaries and executives at O'Hagan, Smith & Amundsen were calling the law firm's help desk with the same Windows, password and file-saving questions they had already asked — and received answers for — dozens of times. Information retention was nonexistent, and the law firm was growing at a rate of 200% per year. Yet Chuck Linebaugh, director of information systems, didn't have the budget to hire additional workers to handle the relentless ringing on the help desk.

Instead, he went to the firm's lead partner with a proposal: Offer customized IT training to all employees, and make certification mandatory for everyone, from the top partners along Mahogany Row to the lowest-paid clerical worker. To sell the idea, Linebaugh used a financial argument: Pay once to train all employees rather than pay the recurring costs associated with expanding the help desk as the company grew. "Essentially, we told him, 'Here's how you can lower IS costs,' " Linebaugh says.

Lead partner Glen Amundsen not only agreed to the idea, but he also offered to be the first to go through the training and take the certification exams that Linebaugh and his team subsequently developed.

To tailor the training to the firm's employees, Linebaugh and three other people from IT sifted through the previous year's records of help desk calls, identifying 90 things that every worker — regardless of his job — needed to know in order to use the firm's existing technology. These items were then categorized into four areas — Windows 2000, file management, Microsoft Word and Microsoft Outlook.

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John Berry is an IT management consultant and analyst in Bend, Ore. He's currently writing a book about the measurement of intangible assets. Contact him at [redacted]

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SAP H.R. APPLICATIONS CONSULTANT, 8am-5pm. Research, develop and design computer software systems on they relate to HR management functions such as payroll, benefits and time management. Required: proficiency with SAP HR and SAP ABAP/4, ASAP Cert., B.S. to IT or related field, or equiv. Cedar Inc., Send Resume: glenda.soderstrom@cedar.com or fax: (410) 752-2878.

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A rehabilitation services company located in Warren Michigan has 2 openings for system analysts. The positions require a minimum of a bachelor's degree or equivalent to computer science, engineering, or any field with computer courses and/or least six months experience on a programmer. Responsibilities include preparing reports, troubleshooting hardware/software and reviewing computer system capabilities. Send Resume: Administrator, Therapeutic Connection, Inc., 28111 Hoover, Suite 7-B, Warren, Michigan 48093.

Software Engineer wanted by a Houston company to develop front-end and testing applications and perform related duties to clients. M.S. to Computer Science and 2 years related experience required. Send resume to EPC Solutions LLC, 7034 Little Redwood, Pasadena, TX 77505.

A Rehabilitation Services Company in Warren, MI needs a Systems Analyst. Job duties include utilizing technical expertise in computer sciences to design and coordinate changes to computer software and hardware systems, reviewing description of changes to software. Requires a Bachelor's degree or equivalent to any field with courses in Software Technology and 1 year experience on a Systems Analyst or a Programmer. Send Resume: Administrator, Mobility Plus Rehab Services, Inc. 11554 12 Mile Road, Warren, MI 48307.

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Provides database administration for DB2/400 & Microsoft SQL Server databases, including: logical/physical database design & implementation, performs backup & recovery, implements & monitors database security, conducts performance monitoring, troubleshoots problems & halts proactive processes to prevent recurring problems. Establishes & manages data movement strategies by developing stored procedures & using replication tools. Environment is a multi-terabyte environment consisting of AS/400, SQL Server & Oracle databases servicing Internet, intranet & several distributed call centers w/ strict service levels req'd. Will work with: AS/400 DB2 ver 4.5 and 5.2 SQL Server 2000, Data Mirror Mimix, Turnover, RPG, SQL, Erwin, Store Procedures. REQ: 4 yrs. similar exp. such as work as a Database Analyst or Programmer. Will consider applicants w/ any suitable combination of education, training or exp. Send resume to: Mr. Jay Rombach, Royal Caribbean Cruises Ltd., 1050 Caribbean Way, Miami, FL 33132.

Office Automation Analyst. Assists Pres./ Sr. Mgmt. in investigating/ resolving software/ hardware problems, such as client database/ electronic mail/ operating sys. and with software/ hardware installation/ training, call vendors to research software/ hardware based solutions to administer/ optimize use of machine equip./ cleaning products, work assignments, cleaning crew follow ups, work hours/ billing. Req. Associate's in Comp. Sci or equiv. & 2 yrs. exp.or 2 yrs. in Systems Analyst position(s). Resume: H. Tipton, American Detail Cleaning Corp., 11600 Nebel St., #200, Rockville, MD 20852. No calls.

JAVA DEVELOPER to research, design, & develop back-end JAVA computer software systems using knowledge of J2EE platform. Competitive salary. Degree & exp. required. Resumes to Marissa Henning, Severn Trent Systems, 20405 St. Hwy 49, #600, Houston TX 77070.

Server Software Engineer will perform software design and programming to support data conversion on a major human resources and payroll data processing application. Will participate in program design and code review, establish and control project scope goals and analyses and support outbound implementation and additional conversion projects. Requires Bachelor's or equivalent in Computer Science, Engineering, Mathematics, or Physics, plus two (2) years experience in Job Offered OR two (2) years experience in developing Oracle applications. Candidate must also possess demonstrated expertise creating and modifying Oracle Fast Formulas, demonstrated expertise implementing and customizing Oracle HRMS and Payroll, and demonstrated expertise developing U.S. payroll software applications. Salary $69,325/yr, M-F, 9AM-5PM. Send 2 resumes to Case #2002-282, P.O. Box 989, Concord, NH 03302-0989. EOE. Applicants must be workers eligible to accept full-time employment in U.S.

J.M. Smith, an enterprise technology company for the pharmaceutical/medical industry currently seeks applicants for the following position in its Spartanburg, SC location: Senior Programmer - Communications to research, design, develop, test and perform tune PC-based applications for the medical industry utilizing Serial Communications applications and networking technologies. Applicants for this position must have a bachelor's degree in Computer Science, Engineering or related field plus 3 years of experience to include software development experience with Visual C++ and C++ multi-threaded programming and TCP /IP, X25, VPN, Java servlets and other networking technologies. This is a 40-hr/wk salaried position. For consideration please forward your resume to: J.M. Smith, Attention: Jo Walker, P.O. Box 6052, Spartanburg, SC 29304. Please do not email or fax resumes. EOE.

Infodat International, Inc., is a full service information systems solution provider. We have position openings for:

Programmer Analysts: To design, develop and implement Oracle and Product Design, Manufacturing Applications using Oracle, Oracle Developer, SQL, PL/SQL, C and C++ based on UNIX and Windows Operating Systems. Develop and test interfaces between Oracle and legacy systems. Need Bachelor's in Computer Science or related field. Need 2 years of experience in a related occupation.

Send resume to: Malla Makala, President, Infodat International, Inc., 6300 Richmond Avenue, Suite #124, Houston, Texas 77057.

Programmer Analyst: Design & develop software applns using UNIX, MVS, COBOL, VSAM, JAVA, C, C++, ATG Dynamo, Shell scripts; integrate Legacy system using TIBCO (BW, IM, RV & SDK); and implement Autonomy PIB. Responsibilities also include performance tuning, production support & troubleshooting of operating problems. Must have Assoc. deg. or equivalent in Comp. Sci & 2 yrs of relevant experience. Job to Charleston, WV & other locations. $60K/yr. Send resume to HR, U.S. Professionals, LLC, 200 Association Dr., Charleston WV 25311. Fax (888) 950 5868. Email: jobs@uspcorp.com. Ref: PA-WVC.

Principal Software Engineer working within Company's Employer Services business unit, will be responsible for supporting and developing the unit's time keeping database, particularly with respect to client implementations, enhancements and bug resolutions. Will apply knowledge of Oracle internals, Oracle tuning techniques, Oracle development, Oracle Reports, Oracle HRMS, Unix and various software development environments to provide the software systems application development support. Requires Bachelor's Degree or equivalent in Computer Science, Engineering, Math. or Physics and five (5) years experience in job offered or five (5) years experience developing database applications in a UNIX environment. Candidate must also possess demonstrated expertise in design, development and performance tuning of time management and HRMS systems, demonstrated expertise customizing Oracle HRMS applications in PL/SQL and designing and developing Oracle Reports and demonstrated experience in a full-cycle, large-client Oracle implementation. Salary $80,000 /yr. Mon-Fri, 8:00AM-5:00PM. Submit two (2) copies of resume to Case #2002-150, PO Box 989, Concord, NH 03302-0989. EOE. Applicants must be workers eligible to accept employment in the United States on a full-time basis.

Internet Solution Developer. Research, design, develop, maintain, support internet solutions using Java, C#, Microsoft .Net Framework, SQL Server 2000, XML and other advanced technologies. Design and develop interactive web sites for data warehousing and data mining that enable subscribers to access specified database. Maintain and manage the SQL2000 server database of subscribers. Require a bachelor degree in computer science plus two yr exp on job offered or 2 yr exp in a related field. Apply to Digital Designs, Inc. 1501 Charlotte Ave., Monroe, NC 28110. Attn: Mrs. Buckner jbuckner@ddiinc.com.

SAP Consultant. Waltham, MA. Requires ABAP Module with experience in Workflow, SAPscript, ALE, EDI, idoc. Strong communication skills are a must plus a willingness to travel 100% within US. Send resume ATT: HR Department, Plaut Consulting, Inc., 1050 Winter Street, Suite 2300, Waltham, MA 02451. NO PHONE CALLS.

IT Manager: manage projects to ensure efficiency and budget guidelines are met; supervise work of developers, testers, and business analysts in their day-to-day activities; monitor and resolve Payroll System Administration requests and issues; interface with users to resolve system issues; interface with corporate departments to access business needs and system requirements and research IS initiatives for the departments. Minimum requirements: Master's degree in Business Administration with a concentration in CIS or related field, plus 1 yr. previous exp or 1 yr. programmer analyst exp using SQL, MS Access, and VB.

Must have indefinite right to work in U.S. Mail resume demonstrating minimum requirements to Auto Nation, JOB 604, 110 S.E. 6 Street, Ft. Lauderdale, FL 33301.

Tubin International, Ltd., a leader in designing land management software applications for the oil and gas industry. Seeks applications for the following positions which are located in Denver, Colorado and/or Houston, Texas. Please send resumes by mail to Frances Gonzales, Tubin International, 1625 Broadway, #500, Denver CO 80202. and please specify the job I D. number of the position that you are applying for.
GIS Solutions Architect
Develop and implement GIS and Geospatial software and database solutions and applications. Requirements include two years of experience designing, developing and implementing GIS software and database solutions and working knowledge of Oracle Spatial databases and ARC IMS. Job I D Number 101
Senior Software Engineer
Senior Level
Designing developing and supporting integrated object-oriented software applications that incorporate Oracle relational database management software systems. Requirements include masters or equivalent, three years of experience, PowerBuilder, and working knowledge of designing and developing oil and gas software applications.
Job I D Number 102
Programmer Analyst
Engage in full life cycle software development of software applications that incorporate Oracle relational database management systems. Requirements include bachelor's degree or equivalent two years of experience in this type of software development PowerBuilder visual basic and working knowledge of designing and developing oil and gas software applications.
Job I D Number 103
Oracle Database Administrator
Design, install, maintain and administer oracle relational database management systems. Engage in database and related software application design and development. Requirements include bachelor's degree, two years of Oracle database administration experience, working knowledge of SDE administration, spatial data management and C. Job I D Number 104
Senior IT Consultant
As part of post-sales implementation process, engage in data conversion from legacy systems to land management oil and gas software applications. Requirements include master's degree or equivalent, two years of experience in ETL conversion from legacy systems to Oracle, working knowledge of land management or and gas software applications, interface development, SQL Loader, and Brio Query designer tool. Job I D Number 105

Baxter Healthcare Corporation is currently seeking individuals to fill Programmer Analyst (PA001-CA). and Systems Consultant (SC0001) positions at their Los Angeles, CA, Thousand Oaks, CA, Glendale CA & Westlake Village, CA facilities. Please include position code and send resume to: M. Blinde, Baxter Healthcare Corporation, 4501 Colorado Blvd., Los Angeles, CA 90039. EOE M/F/D/V.

Systems Programmer wanted by market research and publishing company. Plan, develop, test & document computer programs, examine & analyze AS400 RPG codes. Job Site: Camarillo, CA. Bachelor degree in Computer Science or Computer Engineering required. Send resume to Mr Anderson at Lundberg Survey, P.O. Box 6002, Camarillo, CA 93011-6002

Kbkids.com®, a leader in e-commerce, seeks applications for the following positions which are located in Denver, CO. Please send resumes by mail to Francis Gonzales, HR Dept, Kbkids.com, 1099 18th St., Ste. 1000, Denver CO 80202 and please specify the job I D number for the position you are applying for

Sr. Software Engineer
Design and develop, at a senior level web-based and three-tier software applications that control Oracle relational database management systems. The position requires a masters degree or equivalent in computer science, CIS, electronics or a related field and four years experience designing and developing Oracle database software applications and related skills. An applicant must also have working knowledge in a number of areas including Designer 2000, Oracle Reports and object oriented design and analysis methodologies. Job I D SSE

Sr. Database Administrator
Develop and administer Oracle databases that run on the UNIX and Linux platforms. Install and maintain database documentation and patch applications. Engage in capacity planning, systems analysis and design application program development and proactive performance analysis, monitoring and tuning. Perform hot backups, hot standby databases and data guard configuration. Design, configure and administer Oracle Parallel and Real Application Cluster Database Servers. Engage in data conversion/migration, development of budget and project proposals and project management. The position requires a bachelor's degree or foreign equivalent in Computer Science or related field (excluding Civil Engineering) and 4 yrs experience using the technologies given above. Job I.D. SDBA.

IT Mgr/Infrastructure Grp. Global firm sks mgr w/ multicultl exp IT exp to head logistics/network design grp ($3M budg 18 empl 8 facs) & coord ops issues (glob finan, techn & strat bus plan)>-meet 2X/yr w/Germ Head Off's manag directors & coord softw issues monthly w/contr purch dept.in Germ
Specif duties. Utd well-dev knowl of Germ bus cult, manag implem of my glob orgtn in multip countrs & cult environts. Microsoft, Novell, Netware 3, 4 & 5, Ethernet & Token Ring networks, Sniffer, bridging, anal of network protocs, tracing networks, protocs incl NetBIOS, IPX, routing & IP LAN /WAN/MAN TelCo network plan /design, budg contr disast recov, stdiz hdwr/softw platforms, neg contrs w/telco suppls/contrs.
Regs.
Bach deg in Comp Sci or Info Sci + 2 yrs IT mgr exp w/same specific knowl/duties as above OR
5 yrs IT exp incldg 2 yrs IT mgr exp w/ same specific duties Anovel as above.
Resume to. Arvato Servs Inc., Attn HR (IC), 28210 N. Ave Stanford, Valencia, CA 91355

Senior Trading Systems Analyst sought by NJ based Securities Dealer. Must possess Bachelor's Degree or equivalent in Business Administration or related field and 2 years exp in the Trading systems development/analysis /design. Respond to: Human Resources Department TJX/IOP Knight Trading Group, Inc., 525 Washington Blvd., Jersey City, NJ 07310.

ECAL Solutions Inc. provides chemical analysis services and specializes in providing computer and information technology solutions services through its highly qualified and committed professionals. We are looking for the following positions:

Systems Analysts:

Analyze, design, develop, test, and implement computer applications for clinical data management using C++, Visual Basic, UNIX, and Oracle. Create, edit, and test logical and physical database applications using SAS Editor and validate data using Recordset Direct case report form design, generate data cleanup specifications, implement database design support, create test data review, conduct query and resolution of clinical data implement database finalizations, and maintain study documentation. Perform user acceptance testing, regression, and functional testing. Requires a Bachelor's in Computer Science or a related field and 2 years of experience as a Software Tester/Analyst

Send Resume to HR, ECAL Solutions Inc. 9907 Country-creek Drive, Suite # 207 Houston, Texas 77036 or via e-mail at hr@ecalsolutions.com

Cedar Enterprise Solutions, Inc., a software consulting and services organization has an opening for a Systems Analyst. The job duties include Analyze user requirements, procedures, and problems to assess client's business and systems environment including project plan development, staffing, day-to-day project management to include management of multiple large projects, problem resolution and maintaining overall client satisfaction on multiple projects. Direct responsibility for ensuring all phases of projects carried out in accordance with project plan including staffing, management of multidisciplinary work teams and maintaining right mix of skilled/experienced consultants on each project. Will oversee administrative reporting. The position is based out of the Baltimore, MD office and the position requires constant travel to client sites located throughout the United States. Must have a Bachelors Degree in Computer Science and a minimum of two (2) years of experience in the job. RESUMES ONLY. Send resume to: Cedar Enterprise Solutions, Inc /HR, 100 East Pratt Street, 16th Floor Baltimore, MD 21202

Software Engineer for lighting manufacturer in Peachtree City, GA. Requires a Bachelor's degree in Computer Science and two years experience overseeing the software development life cycle, including combining with business analysts to determine user requirements, conducting software requirement analysis, performing object oriented and graphical user interface design and implementation, and testing, deploying and maintaining software systems. Send resume to Margaret Abell, Cooper Lighting, 1121 Highway 74 South, Peachtree City, GA 30269

Computers-Systems. Analysts needed. Seeking qual. cand. possessing BS or equiv. and/or rel. work exp. Rel exp must include 2 yrs working with Clarify & Oracle. Work with 3 of the following: ERP, Siebel, Clarify, Oracle, SQL Server, Clipper Basic. Fwd resume & ref. to Mohan Tech. Corp., Attn. HR, 4803 McConle Ave., SE, Charleston, WV 25304.

MAGNA INFOTECH, a fast growing consulting company in looking for Programmer/Analysts, Software Consultants and Software Engineers with experience in one or more of the following.

ERP: Sap, Baan Implementation, Tools, Admin

UNIX: C, C++, Shell, AIX, HP UX, Solaris Admin, Networking

AS/400: RPG/400, COBOL/400, CL, BPCS, JD Edwards, Symon

WINDOWS: VC++, VB, PB, MFC, OLE/COM Admin

REAL TIME. Microprocessor, RTOS Programming

INTERNET: Java, Javascript, CGI, Perl, WAP Admin, Active X, ASP

DATABASE: Oracle, Informix, Sybase, DB2 Admin, Developer 2000, Designer 2000

Sales Manager / Marketing Manager must have at least 2 years of Sales experience, BA Degree or Foreign Equivalent Degree and basic computer skills.

Multiple positions exist at various sites across the US.

If you are interested please mail your resume clearly mentioning the reference number CW0300 to **Attention Recruiting Dept., Job Ref. CW1000, Magna Infotech Ltd. 1 Padanaram Rd., Suite 208, Danbury, CT 06811-4833.**

Java Web Developer/Consultant wanted by Internet solutions co. in Houston TX. Requires M.S. in Comp. Sc. plus 2 yrs. exp. Respond by resume to Mr. Q. Mahesh, P/O, Xpedient Solutions, Inc., 2425 West Loop S. Ste 200, Houston, TX 77027

Database Administrator (Lincolnwood, IL)-Code, test, implement, & maintain computer databases. Calculate & establish physical database parameters. Specify user access levels. Tools: C C++, Windows, Oracle, SQL. 40 hrs (8a-5p (m-f)). $32 000/yr. Must have BS (Comp. Science), at least 1 yr of exp. as DBA, must show proof of legal auth. to work in US. Send resume to: Illinois Department of Employment Security, 401 S. State St. 7 North, Chicago, IL 60605. Attn: Gwendolyn Jackson, Reference #V-IL-32723-G. An employer paid ad. No Calls. Send 2 copies of resume/cover letter

Siscomm Corporation, an established Internet consulting firm, seeks experienced computer consultants. Qualified applicants will have ASP, SQL Server database experience and the ability to develop security mechanisms with the 40-bit and 128-bit versions of the Secure Sockets Layer. Relevant degree(s) also required. Qualified applicants submit resumes to HR Dept., Siscomm Corporation, 5335 Far Hills Ave., Suite 222, Dayton, OH 45429

Programmer/Analyst. Design, develop, implement and maintain client server web based applications using SQL Transact SQL, MS SQL SQL Sorter, HTML, QA Partner Silk, Win Runner, Load Runner, Test Director, Oracle Sybase, MS Access, LotusNotes, C, Pro*C, Forms, Unix, Windows. Demonstrated ability working with SQL,Transact SQL, MS SQL SQL Sorter. Demonstrated ability working with HTML, QA-Partner, Silk, Win Runner, Load Runner, Test Director, Oracle Sybase, MS Access, Lotus Notes, C, Pro*C, Forms. $55 000/yr, 40 hrs/wk, 9:00a.m. - 5.00 p.m. Must have Bachelor of Sciencen Comp Sci., Eng., Mgmt Sci. rel field/equiv and 2 years exp.(will accept the equivalent of the degree in any combination of education and/or experience). Send 2 copies of resumes. Job Order # 2002-405, PO Box 989, Concord, NH 03302-0989

Training Representative/Programmer
Develop & test training programs for industrial & commercial clients incl. policy & reference manuals & other documentation pertaining to the clients's equipment, org. processes, products and/or services. Deliver training on VALPA series-VALPA Functional Overview Training. B.S. in CS or rel. w/skill to use Marcomedia, Authorware, Dreamweaver, Adobe Photoshop, HTML, Basic, C++, Microsoft Windows NT4, Novel Professional, NT (workstation & server). Must have/familiarity of training methods & resources used for employee training and be fluent in both English & Spanish. 40 0 hrs/wk, 9-5. Send resume to: Ms. Deborah E. Compston, HR Assistant, Blanco Hopkins & Associates, Inc., 5635 Peachtree Corners East, Ste. A, Norcross, GA 30092

Programmer Analyst at our Cedar Rapids, Iowa location. Develop and maintain online application programs and back-end batch programs; test and document computer programs; evaluate user requests for new programs; and assist users in solving operating problems. Must have three years experience or three years experience as Programmer and knowledge of Oracle, EIS, PL/SQL, Pearl, Crystal Reports, and C. Send resume with cover letter to ARAC Customer Services, Inc., Attn: Cindy Corsaro, 6 Parkway North Center, Deerfield, IL 60015. EEO/AA
ARAC CUSTOMER SERVICES, INC., is not affiliated with ARAC, Inc. the road paving and construction materials company

TRIDENT SOFTWARE CORP a S/were Consulting Co. seeks to fill the following positions in Oak Park, IL.

Programmer Analyst (multiple openings) must have BS in Computer Science & 3 yrs s/were exp.

Send resume to: Trident Software Corp., 1183 South Scoville Avenue, Oak Park, IL 60304, Attn: Mr. Unmesh Trivedi.

Sr. Programmer Analyst - Implement, maintain and troubleshoot complex SAP BW systems. Perform data extraction and transformation from SAP R/3 and non-SAP sources to SAP BW. Build complex queries and reports in SAP's BEX reporting tool. Maintain, automate and enhance data loads and extractions for an Informix Data Mart in a Unix environment. Must have Master's Deg in Comp Sci, Physics or Eng & 2 yrs in job. Contact: MECA Personnel Dept, One Panasonic Way, Panasonic Way, Panasonic Way,

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Paradigm Infotech is looking for programmer/system analysts, s/w engineers. Candidate must have BS with at least one-year IT experience. Good skills in C/C++, Java, Oracle, WebLogic, VB, HTML are plus. Traveling is required. Apply jobs@paradigminfotech.com. EOE

VPD has openings for Sr. Programmer/Analysts responsible for all programming changes made to the VPD e-commerce web site, which is PROGRESS based. Build PROGRESS based reporting data warehouse. Minimum BS/MS plus exp. Send resumes to jobs@vpdinc.com

Multiple positions available for computer professionals including Soft. Eng.'s, P/A's, Systems Analysts, Network Analysts, Systems Admin.'s, SW Developers, Website Developers. Locations vary. Openings now w/leader in the field including TEKsystems, Onsite, and Allegis Group. Req's travel & degree (Bach. MS, or equiv.) in relevant field. E.O.E. Competitive salary & benefits. Resume to: J. Brigham, Allegis Group, HR, 7301 Parkway Drive, Hanover, MD 21076. ID Job No. 10-01-2002

PEOPLE WITH THE FOLLOWING SKILLS NEEDED FOR ASSIGNMENTS THROUGHOUT THE USA. ORACLE, SYBASE, POWERBUILDER, AS400, PROGRESS, UNIX SYS ADMIN, NATURAL, SQL/ SERVER, JAVA, INGRES, SAS, VB, HTML. PLEASE MAIL RESUME TO DIR. RECRUITING, Skillsoft Inc., 20283 State Road 7, Suite 300, Boca Raton, FL 33498, U.S.A. www.skillsoftusa.com

Senior Consultants needed. Several positions available for qual candidates poss MS/BS or equiv and/or rel work exp. Rel exp must include 3 yrs working with Rational Rose, Lab View 5.1, and Distributed Control System Knowledge of Active Directory, Site Minder 4.6, ATL COM C++ and Vignette pref. Send res, ref, and salary req to Entelligence, 1177 West Loop South, Suite 1550, Houston, Texas 77027

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- Product Managers
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Please send resume to Mercury Interactive Corporation with cover letter to Human Resource Dept., fax: 408-822-5514 or email your resume to jobs@merc-int.com. For additional information on these and other positions, visit our web site at mercuryinteractive.com. Mercury Interactive Corporation is an equal employment opportunity employer committed to the development of a diverse workforce.

MERCURY INTERACTIVE

Project Manager – San Jose, CA

Responsible for design, development, testing and implementation of eExtend program. Interface with global customers; coordinate schedules, overall project plans, documentation and problem escalation to meet deadlines. Provide technical consulting and project management expertise; consult with team regarding project proposal, cost benefit analysis, risk plan, communication and project assumptions. Bachelor's degree must be in Computer Science, Engineering or related field. Must have one year of experience as Project Manager or Senior Software Engineer, and one year of experience with: Project Management (including: managing the implementation of content management systems, developing project schedules, and documenting new business processes), ERWin, MS Project, PowerPoint, Use Case Analyses, Software Development Life Cycle/Methodology, Web Architecture. 40 hrs/wk, M-F, 8-5, $65,000/yr. Must have proof of legal authority to work in the United States. Submit resume to the Iowa Workforce Center, 800 7th Street SE, P.O. Box 729, Cedar Rapids, IA 52406-0729. Please refer to Job Order IA1101608. Employer paid advertisement.

Computers-Software Engineers needed. Centerville, OH company is seeking qual. cand. possessing BS or equiv. and/or rel. work exp. Exp. must include 1 yr. working with Powerbuilder. Work with 3 of the following: Powerbuilder, Clarify, VB, Oracle, Sybase, SQL. Mail resume & ref. to: Authorized Wireless, Inc., Attn: HR, 5828 Wilmington Pike, Centerville, OH 45459 or email & to: authorized wireless@msn.com.

Software Engineer Duties: Resp. for testing & verifying code for Telecom. PCS IT AD testing lab using Segue & Rational tools. Support testing activities for key develop. efforts. Develop & maintain test guidelines, cases & scripts using Segue & Rational Tools. Determine test requirements. Coord. test scheduling & conduct system integration tests. Requires B.S. (or foreign equiv.) in Comp. Sci., Eng. or a related field & 3 yrs. exp. to the job offered or 3 yrs. exp. as a QA Analyst, Systems Analyst or Prog. Concurrent exp. must incl. 3 yrs. exp. testing & verifying code using Segue & Rational Tools & 3 yrs. exp. developing & maintaining test guidelines. Send resume (no calls) to: Danielle David, CTG, Inc., 13220 Metcalf Ave., Ste. 140, Overland Park, KS 66213.

SOFTWARE ENGINEER to design, develop, test and maintain application software for management information systems using object-oriented programming, Java, C, C++, Pro C, Oracle, Harvest, Rational Rose, Together/J, StarTeam, PCVS, DB2, Visigenic's visiBrokers and IONA's Orbix Web under UNIX, SUN Solaris and Windows operating systems; Monitor and supervise junior software engineers and programmers. Require: M.S. degree in Computer Science, Systems Science, or a closely related field with one year of experience to the job offered or as a Systems Engineer. Extensive travel on assignment to various client sites within the U.S. is required. Competitive salary offered. Send resume to: Roz L. Alford, Principal, ASAP Staffing LLC, 3885 Holcomb Bridge Rd., Norcross, GA 30092; Attn: Job MC.

Cold Fusion Developer. Develop, design, modify, and maintain the SQL2000 database-driven applications for the foodservice.com website. Perform analysis and assist in the selection of appropriate technology through an understanding of end-user needs and limitations.
Competitive salary. Prior experience must include five (5) years of experience utilizing Cold Fusion, Java, JavaScript, Perl/ CGI, SQL, ASP, Visual Basic, VBScript, Visual Interdev, COM/DCOM, and Object Oriented and distributed technology such as MTS and MSMQ in applications regarding Website security, performance, and maintenance. Must have proof of legal authority to work in the U.S. Applicants should send resume demonstrating at minimum requirements to: FoodBuy, LLC, 1000 Mansell Exchange West, Suite 300, Alpharetta, GA 30022. M/F/D/V.

ANALYST

SAP Project Analyst (Valencia, CA) Under supervision, design & improve SAP systems, customize SAP R/3 implementation specializing in interfaces like IDOC's & XMI, connecting external customers via BC, experience in ABAP/4 analysis, define business requirements & the flow into existing IT systems, provide IT solutions for current business tasks, coordinate IT tasks & develop, maintain interfaces to subsystems, be key member & common of various project teams in Valencia & Germany, responsible for planning of common project tasks, concepts, & realization, as well as control of project tasks, responsible for SAP training & consulting in the US & Germany, troubleshooting, create, review & rewrite existing & new business proposals, tasks between Data Center in Indianapolis & Germany. Req: BA/BS in Computer Science, Engineering, Physics or Math; 6 months experience req. Span 40 hours a week; knowledge of SAP R/3 & ABAP/4 German language required. $70k/yr + bonus. Letter & resume in duplicate to: Babette Marcella, Arvato Systems, 25134 Rye Canyon Loop, #300, Valencia, CA 91355.

ANALYST

SAP Project Analyst (Valencia, CA) Design & improve SAP systems, customize SAP R/2 & R/3 implementation specializing in SD & WM, experience in ABAP/4, analyze & define business requirements & the flow into existing IT systems, provide IT solutions for current business tasks, coordinate IT tasks & develop & maintain interfaces to subsystems, be key member of various project teams, responsible for planning of common project tasks, concepts, & realization, as well as control of project tasks, be responsible for SAP training & consulting, troubleshooting, create, review & rewrite existing & new business proposals, tasks between Data Center in Indianapolis & Germany. Req: BA/BS in Computer Science, Engineering, or Math equivalent, 4 years experience, knowledge of SAP R/2 & R/3 & ABAP/4. 9am - 5 pm, 50 hours a week. $80k/yr + bonus. Letter & resume, in duplicate to Babette Marcella, Arvato Systems, 25134 Rye Canyon Loop, #300, Valencia, CA 91355.

Synova Inc is seeking professionals with following skills: Programmer/System Analysts /Engineers in Mainframe, Client server Technical/functional (SAP & Peoplesoft) Java, Rational/RUP, UML, Websphere Weblogic, J2EE, Unix DB2 DBA, Oracle, SQL DBAs. Respond to ads@synovainc.com

Multiple openings for system analysts, s/w engineers by Innovative Consulting. BS/MS degree with 1-year experience required. Skills of C/C++, VB, Oracle, Java, Websphere/logic, HTML, Unix, SQL, DB2 are plus (travel maybe required). Contact info@icscorpusa.com. EOE

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Top 20

Bill Murray, a spokesman for the NIPC, said the top 20 list is based on what he called the 80-20 model. "It's the 20 vulnerabilities that are causing about 80% of the serious intrusions," said Murray. "The important thing is that now we have vendors that will allow people to actually test for these vulnerabilities," he said.

Top 20 Vulnerabilities

WINDOWS SYSTEMS

1. Internet Information Services (IIS)
2. Microsoft Data Access Components: Remote Data Services
3. Microsoft SQL Server
4. Netbios: Unprotected Windows networking shares
5. Anonymous Logon: Null sessions
6. LAN Manager Authentication: Weak LM hashing
7. General Windows Authentication: Accounts with no passwords or weak passwords
8. Internet Explorer
9. Remote Registry Access
10. Windows scripting host

UNIX SYSTEMS

1. Remote Procedure Calls
2. Apache Web Server
3. Secure Shell
4. Simple Network Management Protocol
5. File transfer protocol
6. R-Services: Trust Relationships
7. Line Printer Daemon
8. Sendmail
9. BIND/DNS
10. General Unix Authentication: Accounts with no passwords or weak passwords

■ For detailed descriptions: www.sans.org/top20/#Unix

"In the past, companies have been on their own."

Each of the top 20 vulnerabilities stems from software that shipped with one or more programming errors that, if left unfixed, allow hackers to gain remote access to systems (see box).

Although the previous two versions of the Top 20 list were successful in focusing attention on the most common security holes exploited by hackers, they failed to get the results that The SANS Institute and other sponsors had hoped for, said Alan Paller, director of the institute, in Bethesda, Md. The lack of results was a byproduct of the unavailability of "commercial tools and, even more importantly, commercial services to allow people to focus on them," he said.

This year's list comes with specific product upgrades from Foundstone Inc. in Mission Viejo, Calif., and Internet Security Systems Inc. in Atlanta that target the new top 20 vulnerability list. In addition, Qualys Inc. in Redwood Shores, Calif., announced a free online scanning service that looks for the top 20 vulnerabilities without installing new software on an organization's network. Likewise, free open-source scanning products were made available from The Nessus Organization, an online security scanner project, and Vienna, Va.-based Advanced Research Corp.

"For the first time, organizations that do not have big security staffs can get at the top 20," said Paller. "The key is you don't have to have in-house expertise on running and tuning a scanner, and the upfront investment is small enough that everyone can do it."

The affordability of the scanning tools is a critical component of last week's announcement, said John Gilligan, CIO of the U.S. Air Force and co-chairman of the Federal CIO Council's Security Committee. "None of us can afford the cost of a continual race against would-be cyber-attackers using the current find-and-patch approach to deal with latent vulnerabilities in commercial software packages," said Gilligan. "Simply the economic cost of this find-and-patch mode of operating is enormous."

Gilligan also reiterated demands he and other government officials, such as Richard Clarke, chairman of the President's Critical Infrastructure Protection Board, have made in the past that the software industry take more proactive measures to improve baseline security and reliability of their products.

"It is clear that the quality of software design and testing in the past does not measure up to the needs of the present and the future," said Gilligan. "I challenge the leaders in the software industry, especially in the wake of the physical attacks on this nation, to work together to establish new standards of software quality, as well as effective methods to reduce the impact of current vulnerabilities."

As part of the initiative, the General Services Administration announced its SafeGuard contracting program, under which federal agencies can test for the top 20 vulnerabilities and get technical help in removing them. ▶

SECRET SERVICE

The protective agency makes an effort to shift out unsecured wireless LANs.

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J2EE

by corporate IT shop, depending on the skill levels of its developers and the types of applications being created.

"The people who are building J2EE systems today usually don't express that much concern about [J2EE complexity]," said Mike Gilpin, an analyst at Cambridge, Mass.-based Giga Information Group Inc. "But what you find if you talk to the level of management above that is that the people they have doing J2EE development today tend to be high-skilled, expensive resources, and they'd like to be able to use a broader cross-section of developers for that platform."

How effective the rash of new tools will be at easing J2EE development remains an open question. Sunil Ramakrishnappa, a Web architect for Oakland County in Michigan, said J2EE is complex "if you don't know the concepts clearly," and tools alone won't eliminate the need for knowledge about how the technology works.

"You can have a very good car, but if you don't know how to drive, it's of no use," he said.

Other Constraints

The reason that some companies have steered clear of J2EE has nothing to do with its complexity. Amine Chouicha, a systems analyst at Chicago Stock Exchange Inc., said his firm was an early adopter of Java but stayed away from the server-based J2EE technology because its rules were too constraining for the exchange's financial applications. "J2EE has its own context. It just doesn't apply to us," he said.

Ron Endres, an application development manager at General Casualty Company of Wisconsin in Sun Prairie, said his firm hasn't acquired new applications that require J2EE, and its programmers tend to favor Microsoft Corp.'s "developer-friendly" tools.

Pros & Cons

ADVANTAGES

- Runs on any operating system (subject to adjustments)
- Handles high-volume, high-transaction applications
- Affords users wide range of veteran enterprise vendor choices for tools, application servers

DISADVANTAGES

- Steep learning curve for tools
- Complex application programming interfaces
- Can be costly to build, deploy and maintain applications

Neville Teagarden, CIO at Navigant International Inc. in Englewood, Colo., said the cost of retraining was the main reason Navigant opted for Microsoft's .Net development platform, which shipped in February, over J2EE. "Our folks are far more Microsoft-oriented," he said.

"The complexity doesn't matter because .Net is probably just as complex as J2EE," Teagarden said.

The complicated nature of building distributed component-based applications is driving the complexity of .Net and J2EE, said Dan Sholler, an analyst at Meta Group Inc. in Stamford, Conn. He said tool vendors are taking a wide range of approaches to address the matter and that it will be interesting to see how successful they will be.

"In the client/server world, there were a lot of these kinds of productivity tools built, and ultimately, only a few of them had any real longevity in that environment," he noted.

Sholler said that the current crop of J2EE tools is in an early phase of development and that he expects to see consolidation. "But that's not likely to occur for two years," he said. ▶

EASING THE PAIN

For a summary of recent Java tools announcements, visit our Web site.

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BPA ABM

FRANK HAYES ■ FRANKLY SPEAKING

Practice Questions

ARE BEST PRACTICES worth the trouble? Ask Procter & Gamble, which is saving $125 million a year by using a set of best practices for IT services management. That's what Morton Cohen, P&G's manager of global service management, said last month at the International IT Service Management Summit in Boston. Cohen didn't say how big a chunk of P&G's IT budget that represents, but based on previously published numbers, it's probably between 10% and 15%.

That's some impressive advantage — and it raises three interesting questions.

The first is, of course, how did they do it? Four years ago P&G started implementing a set of best practices called the Information Technology Infrastructure Library (ITIL), which was originally developed a decade ago as a set of requirements for suppliers of IT services to the British government.

ITIL, which is pretty popular in Europe but just starting to get attention in the U.S., is spelled out in books, CDs and other training materials. As with other best-practices regimes, such as Six Sigma and ISO 9000, there are ITIL governing bodies and certifications and regular updates to what constitutes the best practices.

There's no magic to what P&G did. The company made the investment in training, got management behind the effort and eventually had thousands of its IT people working from the same playbook. That consistency reduced surprises and cut the time spent duplicating efforts, reinventing wheels, putting out unnecessary fires and deciphering nonstandard approaches to routine IT-shop tasks.

All of which adds up to less time wasted, more consistent work and greater efficiency and effectiveness — which translates into 10% or 15% in real dollars-and-cents advantage.

The second question: Why is this big advantage from best practices such a surprise? Because P&G is doing what most of us refuse to believe is possible.

We haven't taken that dive into best practices because, well, how could they be that much better than what we already do? After all, we know our jobs. We're good at them. And we resist and resent the idea of some best-practices guru telling us we don't know what we're doing.

So we've told ourselves that whatever we'd get out of adopting best practices — whether in services management or software development or help desk operations or any other IT area — really wouldn't be worth the trouble.

We ignored people who successfully implemented best practices schemes and tried to tell us this stuff really works. We ignored them when they told us they saved money, that service quality and uptime improved, and that everybody inside and outside the IT shop was happy with the results.

We kidded ourselves that it couldn't be true. And when anyone tried to shove best practices down our throats, we fought it and made sure it cost more than it would ever be worth.

And we got away with that, because business was good, and IT was growing in importance, and there weren't many big IT shops with enough experience to cite hard numbers and identify real advantages from serious adoption of best practices.

But now business is lousy, with no improvement in sight. IT has been cut to the bone. And to many IT shops, a 10% or 15% advantage from best practices — or even a 5% advantage — is sounding very attractive.

That means lots of companies are looking seriously at IT best practices these days. Very seriously. Even if you're not, you can be pretty sure your competitors are.

Frank Hayes, Computerworld's senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

Which means it's no longer a question of whether someone in your industry sector will go after that best-practices advantage. It's just a matter of when.

And that leads us to the third question:

Will yours be the IT organization that grabs a 10% or 15% advantage over your competition by adopting IT best practices?

Or will your competition adopt best practices first — and get the advantage over you? ◗

Rated V for Violence

This engineer pilot fish tries explaining to his manufacturing-savvy boss how the cold in his underheated office causes hard-disk problems. It's like a car's starter motor, fish says: when it gets too cold, the spindle sticks and it can't turn. Next Monday, fish discovers how boss has tried to "fix" his PC over the weekend: "He hit the thing several times with a 28-pound club hammer to try and loosen the spindle!"

SHARK TANK

Hose It

It's not hard for IT pilot fish to see why this shop-floor printer isn't working – it's full of water. "We manufacture processed meats on this line, and the USDA requires that the entire room be scrubbed and hosed down from ceiling to floor several times a day," plant worker tells him. "I guess someone forgot to wheel the printer cart outside before taking a fire hose to the room."

Grill It

PC-repair pilot fish receives a remote user's laptop with a note that just reads, "Laptop will not boot." On the laptop's bottom, fish notices odd, slightly blackened marks in a large spiral. "Then I realized what it was," fish groans. "The pattern matched the heating element on an electric stove – and it was melted into the bottom of the laptop."

Trim It

After an hour of phone troubleshooting, this user's new ISDN adapter still won't work. Take it back to the store, support pilot fish suggests. Not a good idea, user says. Listen, either they'll give you a new one or they'll get the one you have to work, fish says. I can't, user insists. Eventually, fish gets the truth: "He had a computer with a small-form chassis," says fish. "The ISDN adapter didn't fit – so he actually carved it off until it did."

Belt It

Hotheaded CFO drops his laptop on IT director pilot fish's desk and growls, "It doesn't work!" Sure enough, it boots but won't respond to the keyboard. When techs open the case to see if it's just a loose connection, they find the problem: a fractured keyboard circuit board. Any idea what happened? fish asks. "It crashed and lost an hour's worth of changes to my spreadsheet," CFO snarls. "So I hit it."

Smoke It

"I turned my computer on and it started smoking," user tells help desk pilot fish. OK, says fish, so after you turned off the computer and the smoke cleared – "Oh, I didn't do anything yet," user cuts in. "I called you." *Turn off the computer!* fish shouts. "OK," says user. "Now what?"

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FRANK HAYES ■ FRANKLY SPEAKING

Practice Questions

ARE BEST PRACTICES worth the trouble? Ask Procter & Gamble, which is saving $125 million a year by using a set of best practices for IT services management. That's what Morton Cohen, P&G's manager of global service management, said last month at the International IT Service Management Summit in Boston. Cohen didn't say how big a chunk of P&G's IT budget that represents, but based on previously published numbers, it's probably between 10% and 15%.

That's some impressive advantage — and it raises three interesting questions.

The first is, of course, how did they do it? Four years ago P&G started implementing a set of best practices called the Information Technology Infrastructure Library (ITIL), which was originally developed a decade ago as a set of requirements for suppliers of IT services to the British government.

ITIL, which is pretty popular in Europe but just starting to get attention in the U.S., is spelled out in books, CDs and other training materials. As with other best-practices regimes, such as Six Sigma and ISO 9000, there are ITIL governing bodies and certifications and regular updates to what constitutes the best practices.

There's no magic to what P&G did. The company made the investment in training, got management behind the effort and eventually had thousands of its IT people working from the same playbook. That consistency reduced surprises and cut the time spent duplicating efforts, reinventing wheels, putting out unnecessary fires and deciphering nonstandard approaches to routine IT-shop tasks.

All of which adds up to less time wasted, more consistent work and greater efficiency and effectiveness — which translates into 10% or 15% in real dollars-and-cents advantage.

The second question: Why is this big advantage from best practices such a surprise? Because P&G is doing what most of us refuse to believe is possible.

We haven't taken that dive into best practices because, well, how could they be that much better than what we already do? After all, we know our jobs. We're good at them. And we resist and resent the idea of some best-practices guru telling us we don't know what we're doing.

So we've told ourselves that whatever we'd get out of adopting best practices — whether in services management or software development or help desk operations or any other IT area — really wouldn't be worth the trouble.

We ignored people who successfully implemented best practices schemes and tried to tell us this stuff really works. We ignored them when they told us they saved money, that service quality and uptime improved, and that everybody inside and outside the IT shop was happy with the results.

We kidded ourselves that it couldn't be true. And when anyone tried to shove best practices down our throats, we fought it and made sure it cost more than it would ever be worth.

And we got away with that, because business was good, and IT was growing in importance, and there weren't many big IT shops with enough experience to cite hard numbers and identify real advantages from serious adoption of best practices.

But now business is lousy, with no improvement in sight. IT has been cut to the bone. And to many IT shops, a 10% or 15% advantage from best practices — or even a 5% advantage — is sounding very attractive.

That means lots of companies are looking seriously at IT best practices these days. Very seriously. Even if you're not, you can be pretty sure your competitors are.

Which means it's no longer a question of whether someone in your industry sector will go after that best-practices advantage. It's just a matter of when.

And that leads us to the third question:

Will yours be the IT organization that grabs a 10% or 15% advantage over your competition by adopting IT best practices?

Or will your competition adopt best practices first — and get the advantage over you? ◗

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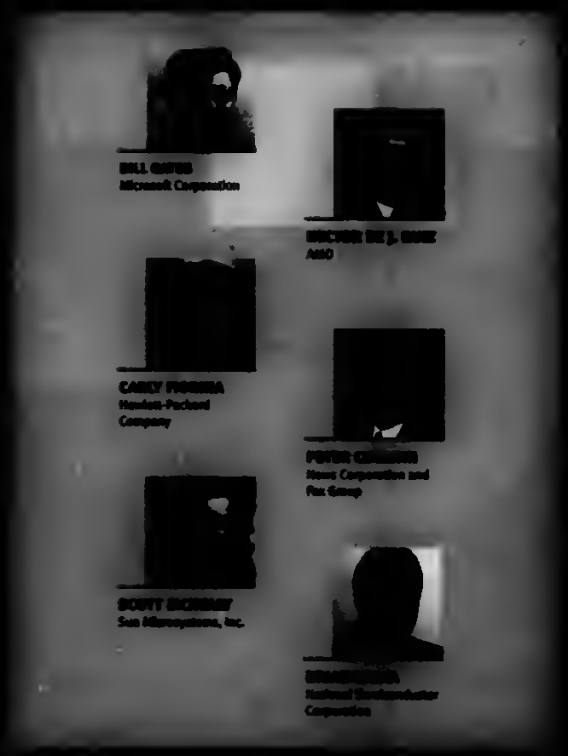

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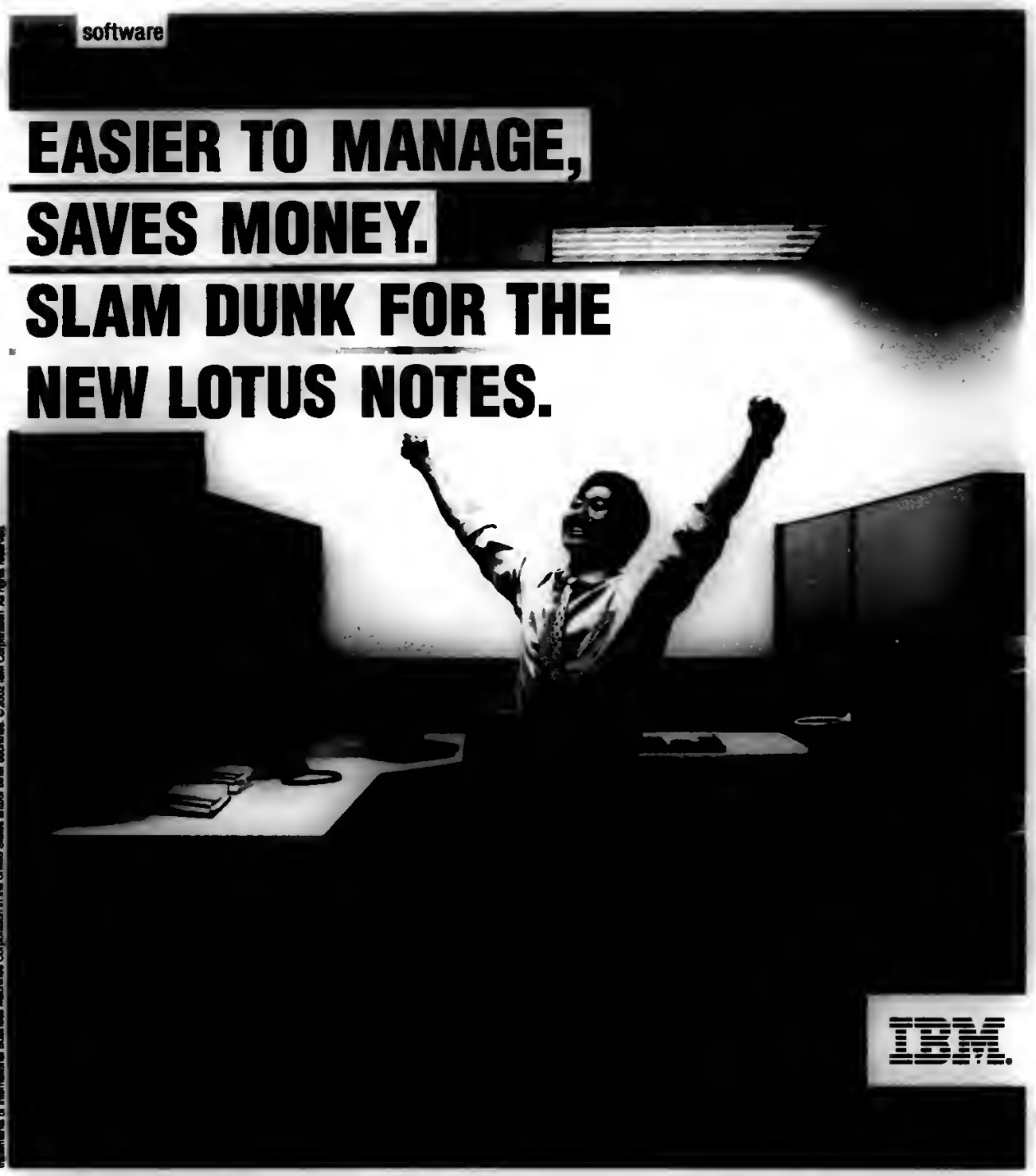

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